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AUTHOR Kortendick, James J.; Stone, Elizabeth W.
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ABSTRACT

A major way of upgrading the profession of librarianship is through a post-master's education program. This data base for the curriculum development of such a program utilized two data-gathering instruments: (1) a questionnaire and (2) interviews. The data are presented under three-headings: (1) questionnaire results, Chapters III, IV, V and VI; (2) interview results, Chapter VII and (3) summary, conclusions and recommendations for further study, Chapter VIII. Summarized, the conclusions were: (1) the program should use an interdisciplinary approach, (2) a systems format should be used in planning and implementing the program, (3) the approach should be practical and based in the library school, (4) multi-media approach to instruction should be used, (5) motivational factors should be used to reach a substantial number of librarians and (6) the program should be offered on a part-time basis for financial reasons. Tables and graphs are used to illustrate the information gathered. (NH)

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POST-MASTER'S EDUCATION FOR MIDDLE AND UPPER-LEVEL PERSONNEL IN LIBRARIES AND INFORMATION CENTERS

Rev. James J. Kortendick, S.S., Ph.D., Project Director

and

Elizabeth W. Stone, Ph.D., Associate Project Director

THE CATHOLIC UNIVERSITY OF AMERICA

Department of Library Science

Washington, D.C.

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TABLE OF CONTENTS

Chapter		Page
	Summary	xviii
I	Background and Objectives of the Study	1
	The Setting	1
	Objectives	3
	Focus on Practicing Librarians	4
	Focus on Federal Librarians	4
	Problems in Phase I	6
	Related Research	8
	Courses and Programs at the Post-Master's Level in Library Science	8
	Continuing Education beyond the First Professional Degree in Related Disciplines	12
	Studies of Types of Librarians	14
	References to Chapter I	16
II	The Design of the Study: Methods and Procedures	21
	General Methodology	21
	The Design of the Study, I: The Questionnaire	21
	Part I: Job Inventory	22
	Part II: Educational Needs	26
	Part III: Background Characteristics	30
	Part IV: Reactions to the Research Project	31
	The Pre-Tests	31
	Design of the Study, II: The Sample for the Questionnaire	32
	Defining the Population	32
	The Sampling Frame	34
	The Sample Design	36
	Return of Questionnaires	37
	Design of the Study, III: The Interview	39
	Objectives	39
	Rationale	39
	Review of Related Literature on the Interview	41
	General Methodology	43
	Administering the Interview	44
	Interview Format	44
	Identifying the Universe and the Sample	46
	References to Chapter II	48
III	Research Findings: Background Information about Federal Librarians	51
	Personal and Job-Related Variables	51
	Grade Level of Respondents	52
	Type of Position Held by Respondents	52
	The Geographical Distribution of the Respondents	53

Chapter		Page
	Sex Ratio	53
	Age Distribution	57
	Professional Experience	59
	Those Who Have Left Library Work for Six Months or More	60
	Experience in Occupations other than Librarianship	61
	Relationships of Position Level to Type of Job Activity	62
	Number of Employees Supervised	64
	Location of Library in Agency	64
	Number of People Employed in Libraries	67
	Variables Related to the Work and the Place of Work	67
	Educational Variables	72
	Library Degrees	72
	Undergraduate Major	74
	Area of Concentration of Non-Library Graduate Degrees	74
	Characteristics of Federal Librarians Compared with Other Types of Librarians	77
	Age	81
	Sex Ratio	81
	Education	81
	Experience	82
	Conclusion	83
	Summary of the Background Characteristics of Federal Librarians	83
	References to Chapter III	87
IV	Research Findings: Job Dimensions of the Federal Librarian	88
	Analysis of the Job Inventory	88
	The Applicability of the Questionnaire	89
	The Dimension of Time	91
	The Dimension of Importance	97
	Joint Time/Importance Dimension	99
	Time and Importance Dimensions Relative to Major Job Functions	102
	Joint Time (Reversed)/Importance Dimension	102
	Conclusions	107
	Qualitative Analysis of Job Activities	109
	Frequency of Response	109
	Areas of Greatest Competencies	109
	Areas of Greatest Weaknesses	110
	Reasons for Greatest and Least Competencies: Over-all	110

Chapter		Page
	Analysis of Automation as Greatest Strength and Greatest Weakness	112
	Content Analysis of Open-End Questions on Job Activities	116
	Comments on Open-End Questions	117
	Summary and Conclusions	120
	Quantitative Analysis of the Job Inventory	120
	Qualitative Analysis of Job Activities	121
	Comments on Open-End Questions	122
	References to Chapter IV	124
V	Research Findings: The Demand for Courses at the Post-Master's Level and Its Relationship to Job-Related Variables and the Characteristics of Federal Librarians	125
	Demand for Courses and Workshops at the Post-Master's Level	125
	Background	125
	Objectives	126
	Data Analysis	126
	Relationship between Demand for Courses and Two Job-Related Variables	145
	Relationship between Demand for Courses and Type of Position	145
	Relationship between Demand for Courses and Type of Work Performed	146
	Analysis of Additional Data in the Questionnaire Relative to Automation and Its Relationship to Demand for Courses	148
	Summary: Attainment of Objectives	154
	Identification of Those Courses which Practicing Federal Librarians Are Most Interested in Studying at the Post-MLS Level	154
	Identification of Types or Degrees of Interest in Courses	154
	Free Response Comments on Courses	155
	Isolation and Analysis of Selected Course-Related Variables and the Measurement of their Relationship to Variables Presented in Other Parts of the Study	156
	Relationships between Job-Related Variables and Demand for Courses	157
	References to Chapter V	160
VI	Research Findings: Additional Data Relative to Building A Post-Master's Program in Library Science	161
	Interest in Formal Post-Master's Programs	161

Chapter		Page
	Number Expressing Willingness to Enroll for One-Year Post-Master's Program in Library Science	162
	Number Expressing Willingness to Engage in Doctoral Programs in Library Science	166
	Interest in Graduate Programs in Fields of Study other than Library Science	167
	Additional Ways in which the Library School Could Help in the Professional Development of Its Graduates	170
	Variables Related to Interest in Post-Master's Programs in Library Science	173
	Relationship of Willingness to Take a Post-Master's Program in Library Science to Distance from the Nearest Accredited Library School	173
	Relationship of Formal Continuing Education Completed to Willingness to Take a Post-Master's Program in Library Science	173
	Self-Perceived Deficiencies in Professional Training	177
	Deficiencies in Formal Scientific, Technical or Professional Courses	177
	Unperformed Job Activities Due to Lack of Training	180
	Knowledge, Abilities and/or Skills Considered Most Important for Respondent's Replacement	182
	Content Analysis of Open-End Suggestions Regarding a Post-MLS Program in Library Science	185
	Suggestions Regarding Non-Library Science Study	186
	Work-Study Programs	187
	Doctoral Programs	187
	General Comments about Continuing Formal Education in a University Setting	188
	Comments Relative to Time, Location and Format of Courses	192
	Attitudes toward Post-MLS Study	193
	Undergraduate Requirements	194
	Suggestions Regarding Library Technicians	195
	Reactions to the Study as a Whole	196
	Summary and Conclusions	200
	Degree of Interest in Post-Master's Programs	200
	Additional Ways Suggested in which the Library School Could Help in the Professional Development of Its Graduates	202
	Self-Perceived Deficiencies in Professional Training	202
	Knowledge, Abilities and/or Skills Considered Most Important for the Respondent's Replacement	205
	Suggestions from Open-End Questions Relative to Post-Master's Programs	206

Chapter		Page
	References to Chapter VI	209
VII	Research Findings from the Interviews with Top-Level Library Administrators	210
	Introduction	210
	Course Needs at the Post-MLS Level as Perceived by the Top-Level Library Administrators (Interviewees)	211
	Courses Most Frequently Selected by the Interviewees	212
	Comparison of the Ranking of Courses Made by Interviewees and Questionnaire Respondents	215
	Analysis by Course Areas of the Most Needed Skills and Competencies at the Post-Master's Level as Perceived by the Interviewees	229
	Scope of the Presentation	229
	Course Area: Administration and General Management of Libraries	230
	Course Area: Automation	243
	Course Area : Specialized Library Functions	251
	Interview Research Findings: Additional Data Relative to Building a Post-Master's Program in Library Science	255
	Interest in Formal Post-Master's Programs	256
	Attitude toward Workshops and Institutes	265
	Admission Criteria for a Post-Master's Program	268
	Relation of Personality Traits to Admission Requirements	270
	The Post-Master's Program in Relation to Career Development	277
	Summary and Conclusions	282
	References to Chapter VII	285
VIII	Summary Conclusions and Recommendations	288
	Introduction	288
	Comments on Methodology	288
	Major Professional Problems Reflected in Study	288
	Need for Upgrading the Profession	291
	Library Education Needs at the Post-Master's Level	292
	Research Findings Indicating the Character of the Educational Needs	293
	The Form of the Education	298
	The Content of the Education	304
	Conclusion	319
	Recommendations for Further Study and Research	320
	References to Chapter VIII	324

	Page
Bibliography	326
Continuing Education: Library and Information Science	327
Continuing Education: Other Professions	333
Continuing Education: Motivational Factors	340
Curriculum Development: Administration	346
Curriculum Development: Automation	353
Curriculum Development: Library and Information Science	358
Curriculum Development: Other Professions	376
Educational Planning: Multi-Media and Systems Approaches	383
Federal Libraries: General Reference Sources for Project	393
Innovation and Change	396
Interviewing Techniques	398
Learning: A Process of Change	402
Manpower	405
Personal Characteristics	410
Questionnaire: Sources Used for Formulation of Instrument	415
Questionnaire: Job Inventories	422
Research: Status and Needs in Continuing Education	426

LIST OF TABLES

Number		Page
1	Pre-Test Samples: 1968	31
2	Breakdown of the Total Population of Professional Federal Librarians by Agency or Department and Grade Level as of February 3, 1969	35
3	Distribution of Returns by Grade Level in Stratum II:1968	38
4	Distribution of Returns by Agency in Stratum II:1968	38
5	Number of Top-Level Administrators Interviewed for Major Types of Jobs Held by Federal Librarian Respondents: 1969	46
6	Grade Levels of Federal Librarians and the Manner in which They Were Combined for Purposes of Analysis:1968	52
7	Frequency of Administrators and Non-Administrators by Grade Level: 1968	54
8	Descriptive Statistics for the Respondents in Administrative and Non-Administrative Positions by Grade Level and Stratum: 1968	55
9	Frequency Distribution of Types of Library Activities in which the Respondents Are Primarily Engaged by Grade Level: 1968	58
10	Number of Employees Supervised by the Respondents by Type of Position and Sex: 1968	65
11	Statistics Relating to Position Location within Agencies of Respondents and Average Number of Employees Supervised by Type of Position and Grade Level:1968	66
12	Distribution, by Type of Position and Grade Level, of Hours per Week Spent on Avoidable Details by the Respondents:1968	68
13	Distribution of Responses to "How Well Does Your Job Utilize Your Talents?":1968	71
14	Distribution of Type of Graduate Library Science Professional Degrees Held by the Respondents by Agency:1968	73
15	Frequency Distribution of the Years in which the Respondents Obtained MLS(or Graduate BLS) by Grade Level:1968	72
16	Baccalaureate Major by Type of Position and Grade Level: 1968	75
17	Area of Concentration of Non-Library Graduate Degrees by Type of Position and Grade Level:1968	76
18	A Profile of Federal Library Respondents Compared with Other Types of Librarians: 1968	78
19	Applicability of Job Inventory: Frequency of Job Items Checked by Respondents by Type of Position:1968	90
20	Applicability of Job Inventory: Frequency of Job Items Checked by Respondents by Grade Level:1968	90
21	Job Activity Items Showing Highest Reponse Rates on Time Factor for All 365 Respondents:1968	93

Number		Page
22	Job Activity Items Ranked According to Weighted Time Score for All 365 Respondents: 1968	95
23	Job Activity Items Ranked According to Weighted Importance Score for All 365 Respondents:1968.....	98
24	Job Activity Items Ranked According to Joint Time/ Importance Weighted Score for All 365 Respondents:1968 ...	101
	Major Job Functions Ranked According to Relative Time/ Importance Weighted Score by Type of Position:1968.....	103
26	Job Activity Items Ranked According to Joint Time (Reversed)/Importance Weighted Score for All 365 Respondents: 1968	105
27	Major Job Functions Ranked According to Relative Time (Reversed)/Importance Weighted Score by Type of Position:1968	108
28	Applicability of Courses by Type of Position and Grade Level (Per Cent Distribution of Respondents Checking One or More by Type of Program):1968.....	127
29	Courses Showing Highest Response Rankings Indicating Interest in (1) Course Now or Course Later; (2) Course Now; (3) Course Later; (4) Workshop; (5) Workshop, Course Now or Course Later for All 365 Respondents; (6) Course Now or Course Later as Checked by Respondents Stating Interest in Post-MLS Program:1968	131
30	Subject Areas Ranked According to Number of Respondents Checking any Individual Course within the Area:1968	136
31	Analysis of the Structure of the Volume of Demand for Courses as Expressed by the Respondents:1968.....	142
32	Correlations between Selected Variables and the Demand for Courses as Expressed by the Respondents:1968	143
33	Relationship between Demand for Courses and Type of Position:1968	147
34	Relationship between Demand for Courses and Type of Work Performed: 1968	149
35	Frequency of Automated Library Activities in Respondents' Libraries in Stratum II (Libraries other than Library of Congress):1968	151
36	Relationship between Demand for Courses in Automation and Having Automated Activities in Library:1968.....	152
37	Relationship between Demand for Courses in Automation and Supervision of Automated Activities:1968	153
38	Frequency Distribution of Respondents Willing to Enroll for One-Year Post-MLS and/or Ph.D. Program in Library Science by Type of Position, Grade Level and Sex:1968	163

Number		Page
39	A List of the Fields of Study and Subject Areas (Other than Library Science) in which Respondents Indicated Interest in Studying at the Graduate Level, with the Corresponding Number of People Interested:1968	169
40	Distribution of Respondents According to Willingness to Take a Post-MLS Program in Library Science and Distance from Their Nearest Accredited Library School:1968	174
41	Amount of Formal Study Engaged in by Respondents Following MLS Degree by Type of Position and Grade Level:1968	175
42	Distribution of Amount of Formal Study Engaged in by Respondents Following MLS Degree vs. Expressed Intent to Engage in Post-MLS Formal Study:1968	177
43	Deficiencies in Formal Scientific, Technical or Professional Education as Evaluated According to Course Areas by Type of Position: 1968	179
44	Number of Respondents Listing Activities They Should Be Engaged in, for which Their Previous Training Has Not Prepared Them, by Type of Position: 1968	181
45	Percentage Distribution of Nine Top-Ranked Courses Checked in Categories: "Should Have", "Could Use", and "Don't Really Need" to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees:1969	212
46	Ranking of Administration and Management Courses to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees Compared to Ranking According to Category "Course Now and/or Course Later" by All Respondents: 1969	217
47	Ranking of Automation Courses to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees Compared to Ranking by all Respondents:1969	221
48	Percentage Distribution of Automation Courses to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees:1969	222
49	Ranking of Selected Specialized Library Courses to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees Compared to Ranking According to Category "Course Now and/or Course Later" by All Respondents: 1969	224
50	Ranking of Courses Related to the Subject Area of Information Science to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees	

Number		Page
50-	Compared to Ranking According to Category "Course Now and/or Course Later" by All Respondents: 1969	229
51	Attitudes of the Interviewees toward Post-Master's Programs in Library Science:1969	257
52	List of Highest Priority Courses for Post-Master's Education of Middle and Upper-Level Library Personnel Based on Rankings by Respondents and Interviewees:1969...	305

LIST OF FIGURES

Number		Page
1	Levels of Supervision in Federal Libraries from which Representative Administrators Were Selected to be Interviewed: 1969	47
2	Job Activities of Federal Librarians Showing Highest Percentage of Response:1968	94
3	Applicability of Courses According to All Respondents:1968	128
4	Applicability of Courses by Frequency of "Workshop" and "Course Now or Later" Checked by Type of Position and Grade Level:1968	129
5	Conditions Listed by Respondents As Necessary for Their Enrolling in a One-Year Post-MLS Library Science Program:1968	164
6	Conditions Listed by Respondents As Necessary for Their Enrolling in a Doctoral Program in Library Science:1968	168
7	Amount of Formal Study Engaged in by Respondents Following MLS Degree:1968	176
8	Summary of Respondents' Evaluation of Knowledge, Abilities, and Skills Most Important for Their Replacements to Have:1968	183
9	Percentage Distribution of Educational Needs of Federal Librarians as Perceived by Interviewees: 1969	213

LIST OF APPENDICES

		Page
A	Schedule of Program Elements: Post-Master's Education for Middle and Upper-Level Personnel in Library and Information Centers	433
B	Questionnaire and Cover Letter Sent to Professional Federal Librarians	435
C	Follow-up Letter to Questionnaire	451
D	Inventory of Professional Personnel and Cover Letters Sent to Federal Libraries	452
E	Follow-up Letter to Inventory of Professional Personnel Sent to Federal Libraries	455
F	Outline of Interview Schedule with Top-Level Administrative Librarians	456
G	Questionnaire to Determine Interviewees' Attitudes toward Post-MLS Programs	458
H	Directions for the Card Sort and Card Sort Reporting Form	459
I	Interview Information and Evaluation Form	461
J	Appendix Tables	463

LIST OF APPENDIX TABLES

Number		Page
I	Distribution of Respondents by Type of Position and Grade Level According to Geographical Regions: 1968	465
II	Profile of Organizational Mobility: Years in the Federal Government: Years in Present Position, and Number of Libraries in which Respondents Have Worked by Type of Position, Grade Level, and Agency: 1968	468
III	Distribution of Reasons for Leaving Library Work by Type of Position and Grade Level: 1968	469
IV	Frequency Count of Respondents Listing Chief Occupations Prior to Entering Professional Librarianship by Type of Position and Grade Level:1968	470
V	Distribution of All 365 Respondents According to Estimated Minimum Library and Information Center Experience Required to Perform Present Job:1968	471
VI	Applicability of Job Inventory: Frequency of Job Items Checked by Respondents by Type of Position:1968	472
VII	Applicability of Job Inventory: Frequency of Job Items Checked by Respondents by Grade Level:1968	473
VIII	Number of Respondents Answering Job Inventory Items According to Time and Importance Applicability:1968	474
IX	Job Activity Items Ranked According to Weighted Time Score by Type of Position: 1968	481
X	Job Activity Items Ranked According to Weighted Time Score by Grade Level:1968	483
XI	Job Activity Items Ranked According to Weighted Importance Score by Type of Position:1968	486
XII	Job Activity Items Ranked According to Weighted Importance Score by Grade Level:1968	488
XIII	Job Activity Items Ranked According to Joint Time/ Importance Weighted Score by Type of Position:1968	491
XIV	Job Activity Items Ranked According to Joint Time/ Importance Score by Grade Level	493
XV	Frequency Distribution of Number of Workshops Checked by the Respondents by Type of Position and Grade Level:1968	496
XVI	Frequency Distribution of Number of Courses Checked in Category "Course Now" by the Respondents by Type of Position and Grade Level:1968	497
XVII	Frequency Distribution of Number of Courses Checked in Category "Course Later" by the Respondents by Type of Position and Grade Level:1968	498
XVIII	Frequency Distribution of Number of Courses Checked in Categories "Course Now" or "Course Later" by the Respondents by Type of Position and Grade Level:1968	499

Number		Page
XIX	Courses Showing Highest Response Rankings Indicating Interest in "Workshop" by Type of Position:1968.....	500
XX	Courses Showing Highest Reponse Rankings Indicating Interest in "Workshop" by Grade Level:1968	502
XXI	Courses Showing Highest Response Rankings Indicating Interest in Either "Course Now" or "Course Later" by Grade Level:1968	505
XXII	Courses Showing Highest Response Rankings Indicating Interest in Either "Course Now" or "Course Later" by Age Group: 1968.....	508
XXIII	Types of Conditions Listed by Respondents as Necessary for Them to Enroll in One-Year Post-MLS or Doctoral Program in Library Science by Grade Level:1968.....	512
XXIV	Respondents' Evaluation of Knowledge, Abilities and Skills Most Important for Their Replacement to Have by Grade Level:1968.....	513
XXV	Frequency of Comments on Personality Traits Desirable for Replacements to Have by Grade Level:1968.....	514
XXVI	Frequency of Comments on Courses and Curricula Section of the Questionnaire by Type of Position and Grade Level:1968	515
XXVII	Percentage Distribution of Courses Checked in Categories "Should Have", "Could Use", and "Don't Really Need" to Indicate Educational Needs of Federal Librarians (Grades 9-14) as Perceived by Interviewees: 196' (N=20)	516
XXVIII	Courses Ranked to Indicate Educational Needs of Federal Librarians (Grades 9-14) According to Weighted Score as Perceived by Interviewees Compared to Frequency Distribution of Number of Courses Checked in Category "Course Now and/or Course Later" by Respondents by Type of Position: 1969	518
XXIX	Administrative Skills and Competencies in which Librarians Most Urgently Need Added Training at the Post-MLS Level According to the Free Response Answer of Interviewees: 1969 (N=20)	520
XXX	Mean Importance (10-$\bar{X}$ Rank) of Traits for Job Success by Management Level	521

POST-MASTER'S EDUCATION FOR MIDDLE AND UPPER-LEVEL PERSONNEL IN LIBRARY AND INFORMATION CENTERS

SUMMARY

Purpose.

This is the final report prepared under Grant No.: OEG-0-8-080731-4604(095) for the U.S. Office of Education, Bureau of Research. Its principal purpose is to provide a data base for curriculum development at the post-master's level that will equip the middle and upper-level personnel for today's library growth and change and thereby provide a major way of upgrading the profession of librarianship.

Methodology.

Information was obtained through the use of two data-gathering instruments, a questionnaire and interviews. The questionnaire, containing 392 items, was sent to a systematic, stratified sample drawn from a total population of 1347 Federal librarians, grades 9 through 14, who had a graduate degree in library science. The information obtained from the questionnaire was cross-validated through interviews with 20 top-level library administrators who gave their views concerning the educational needs of middle and upper-level library personnel. Thus, the project used information from two hierarchically different levels of the profession, fused together to provide guidelines for post-MLS continuing education.

Highlights of the Findings.

The data are summarized under three headings: (1) questionnaire results, which are presented in Chapters III, IV, V and VI of the report; (2) interview results which are presented in Chapter VII; and (3) summary conclusions and recommendations for further study which are presented in Chapter VIII.

A total of 365 middle and upper-level Federal librarians completed the questionnaire, providing information on their personal backgrounds, on their interest in participating in a post-master's program, on deficiencies in their training, and on their suggestions concerning the knowledge and skills they considered most important in their replacements. Chiefly, however, they responded to 223 job activity items in terms of two dimensions -- time and importance -- and 78 course titles in terms of interest in taking a "course now", a "course later", or a "workshop".

Questionnaire Results: Personal, Educational, and Professional Background. Nearly three-fourths (73 per cent) of the respondents were

women whose average age was 45;of the men, the average age was 43. The most prevalent work type of the librarians was administration (63 per cent), and of the administrators 44.8 per cent were heads of libraries or library systems. Concerning grade, 32 per cent were GS 9, 38 per cent were GS 10-11, and 30 per cent were GS 12-14. For the bachelor's degree, the greatest number (41 per cent) had majored in the humanities or the social sciences (29 per cent). Since receiving their graduate degree in library science, 15.1 per cent had taken six credit hours or more of formal course work; 57.3 per cent had taken no formal course work (including workshops). Librarianship was a second profession for 47 per cent of the respondents, with teaching as the principal occupation prior to entry.

Job Dimensions. Job-related information obtained through a job inventory in the questionnaire supplied data which will be used in the formulation of job-relevant objectives for the course models in Phase II. The highest ranking job functions, whether ranked by the time or importance factor, or both combined, were directing (by far the highest) and planning and staffing. The highest rated single job item was "Directly supervise and guide subordinates".

Educational Needs. The questionnaire elicited self-perceived educational needs in several ways. Seventy per cent of the respondents indicated that they would take course work in a "workshop" format; 63 per cent that they would take a course "now and/or later". The top rankings went to automation courses (ranks 1, 2, and 3) and administration and management courses. One-third of the respondents indicated that they were interested in enrolling in a one-year post-MLS program in library science (as distinguished from separate courses); 16 per cent indicated an interest in a doctoral program in library science. Asked if certain conditions would be necessary for enrollment, over 90 per cent listed some condigions, financial aid being the chief one. Others listed in order of frequency were: leave from present position, a quality curriculum content, and scheduling flexibility.

Interview Results. Twenty top-level library administrators (hereafter referred to as the interviewees) were asked to indicate which of the 78 course titles from 13 subject areas they thought middle and upper-level library personnel "should have", "could use", or "don't really need". Over 50 per cent of the interviewees indicated the librarians "should have" the following: "Human Relations in Library Administration (75 per cent), "Administrative Policies and Practices" (70 per cent), "Policy Formation and Decision Making"(70 per cent), "Automation in Library Processes" (65 per cent); "General Management" (60 per cent), and "Communication Theory and Processes" (55 per cent). The interviewees, when asked

what terminal behavior patterns they would expect librarians to have gained by participation in a post-master's program, gave top priority rating to the librarian's becoming an "agent for change". The competencies most urgently needed, as described by the interviewees, were: capacity for directing others -- including interpersonal skills such as employee motivation, communication skills, understanding of the management process, and skill in decision making.

Conclusions.

The primary means recommended by this study for meeting the need to upgrade the profession is for a post-master's program of one-year's duration. The conclusions regarding the form of this education can be summarized as follows:

(1) The program should be interdisciplinary in its approach.

(2) A systems format should be used in planning and implementing the program.

(3) The approach should be practical (related to on-the-job needs) and should be based in the library school.

(4) A multi-media approach to instruction should be followed.

(5) Motivational factors will have to be taken into account if a substantial number of librarians are to be reached.

(6) Financial factors would seem to necessitate the program's being offered on a part-time basis if any large numbers are to be reached.

Turning now to the content, three main course areas emerged from the fused evaluation of course needs as perceived by respondents and interviewees as the ones upon which to build a curriculum for a post-master's program for middle and upper-level library personnel. The high priority courses making up each of these course areas are listed below:

(1) Library Administration and Management
- -- Human Relations in Library Administration
- -- Administrative Policies and Practices
- -- General Management
- -- Communication Theory and Processes
- -- Program Planning and Budgeting
- -- Innovation and Planned Change in Library Organizations

(2) Library Automation
- -- Automation of Library Processes
- -- Information Retrieval Systems

(3) Specialized Library Courses
- -- Building and Evaluating Library Collections
- -- Current Practices in acquisition and Selection of Non-Book Materials
- -- Administration of the Special Federal Library
- -- Information Retrieval for Clientele
- -- Search Logic and Tactics
- -- Systems Analysis for Library and Information Center Operations

Recommendations.

The recommendations of the authors for further research, based upon the findings of this study, are:

(1) Since this study represents only trends rather than final conclusions, parallel surveys of other types of libraries are suggested to determine if the educational needs of other types of librarians at the same level (and different levels) are similar to those of the Federal librarians in middle and upper-level positions.

(2) With the availability and rapid development of the new technology, it is recommended that experimentation and research be undertaken to meet the personalized criteria the librarians indicated would be necessary for them to participate on any wide-spread scale (excellence of content, accessibility, flexibility). Ways for suggested research and development are: (a) taking the campus to classrooms in libraries by means of TV and videotape; (b) taking the campus to the library through the development of individualized learning centers featuring dial access carrels; (c) taking the campus directly to the individual in his home by means of EVR, cassettes, programmed texts and other correspondence courses.

(3) Since a majority (57 per cent) of the respondents had not been motivated to participate in any form of course work since receiving their graduate degree, it is recommended that a comprehensive study be undertaken seeking to establish the most important factors related to the individual librarian's motivation toward participation in continuing education activities.

(4) Since a high percentage of the respondents (70 per cent) indicated willingness to participate in workshops, it is recommended that a much more comprehensive and systematic approach to workshop planning and management and evaluation be evolved. As an aid to this objective, it is suggested that a model be developed covering every important phase of a workshop from its inception to its termination. If used universally, such a model, in itself, could lead to higher standards for workshops generally.

(5) As the study clearly revealed that a great deal of professional time was spent on jobs that librarians considered to be of a subprofessional nature, it is recommended that research studies be undertaken to determine more precisely the specific skills and knowledge that should be incorporated into an effective training program for technicians; and, further, that more emphasis be placed on the skills and competencies needed by the professional supervisor in order to utilize the supportive staff in a manner that commands their highest potential.

(6) As both the respondents and the interviewees indicated that user studies should receive more attention from the profession, it is recommended that studies be made of the use and non-use of all types of libraries and library services, similar in nature to the type of survey made by the National Advisory Commission on the use of the public library.

CHAPTER I

BACKGROUND AND OBJECTIVES OF THE STUDY

This study was undertaken to meet more fully the demands for improved and expanded training of library personnel, especially at the middle and upper levels, occasioned by the rapidly changing roles and functions of libraries as they try to adapt to the vast social, economic, and technological changes currently in progress. The escalation to a higher and often new level of required skills and competencies has brought about an urgent need for improved training beyond the first professional degree at the post-master's level. The basic purpose of this research is curriculum development at the post-master's level that will equip the middle and upper-level personnel in libraries to move up to the changes confronting them.

Before discussing the objectives of the project, it is worthwhile to note a few of the demands being placed on librarians that necessitate increased competence to be obtained primarily from education beyond the master's degree in library science.

THE SETTING

Today has been categorized as the era of the information explosion. As knowledge in every discipline advances, the public, aware of the social and economic role of information, has a right to expect library service to be performed in the most efficient manner possible. However, Bundy and Wasserman (Ref. 4) maintain that most librarians resist the idea that the most important commodity of modern times is information in myriad forms, and their continuing reliance on the book combined with their lack of specialized knowledge in subject areas have resulted in their failure to satisfy the newly emerging demands from their clients. Klempner (Ref. 21) believes a major factor contributing to this inability of the librarians to meet newly emerging user demands is the lack of continuing education for librarians.

One of the major conclusions in a recently completed study by Dolby, Forsyth, and Resnikoff (Ref. 9) states: "Exponential growth of library holdings will persist for the foreseeable future. To maintain current growth rates, automation of the production of portions of the intellectual content, as well as the production of the physical books and equivalent forms of stored information, will increase." The question arises: "Are librarians, especially those in middle and upper level positions, with only the basic qualificiation of a master's degree in librarianship, properly equipped to handle this changing situation?"

For the management personnel of the library this has meant new problems in understanding, planning, staffing, communication, and coordination. The library administrator and his staff now have to use new management tools that are more sophisticated and complex. This need for training in management was also singled out by Ginsberg (Ref. 16) who emphasized that the library schools must make a place for administrative concepts and skills in their curriculum in light of recent changes:

> As libraries make more use of supporting personnel, it becomes important that senior librarians have some understanding of personnel management. Similarly, as libraries are grouped into larger systems, the leadership needs some understanding of the science and art of management of large organizations. If graduate schools are to educate leaders rather than technicians, they must stress many hitherto neglected aspects of management.

Today, not only are the traditional academic and scientific disciplines in an active state of cross-fertilization, but they also feel the impact of new disciplines. The National Advisory Commission on Libraries (Ref. 33), while noting that library personnel need a broader range of competence than has ever been required before, lists as one of the dilemmas of the profession the need for "enlisting more fully the aid of the various disciplines of the social, behavioral, and applied sciences in preparing library science students for the changing requirements of library management and the evolving role of the library in our society."

The seeming shortage of manpower in librarianship could be much better attacked if the existing manpower could be better directed and utilized, since there is evidence to support the premise that the profession is a long way from realizing the potential represented by the personnel already recruited. To correct this situation, additional training for middle and upper-level personnel beyond the first professional degree is necessary, for it is training, as pointed out by Hall (Ref. 17), that must precede and will determine to a large extent how effectively manpower can be used.

The rapidity of the technological, societal, and behavioral changes soon overwhelms a librarian who does not develop a continuous system of self-education. It has become increasingly difficult for the individual library practitioner to keep up with the literature unless he has correspondingly advanced his background training. The need in continuing education is both for overcoming obsolescence in areas covered in one's basic training and also for enabling the individual advancing in the hierarchy of the library to equip himself with a broader and deeper, and often newer base of knowledge than he received in the fifth-year master's program. Simultaneously, as Corson (Ref. 6) points out, the rising

manager or administrator must develop an "overlay" of competencies which include a solid grasp of administrative and executive skills and processes, especially the capacity for directing others, as well as familiarity with the internal and external environment. The needs of librarians in positions of responsibility today would seem to demand immediate attention for those who are already in positions of leadership, as pointed out by Drennan (Ref. 10) and Brady and Wasserman (Ref. 4) who are determining whether librarianship will be able to institute changes and transform itself in a manner which current pressures in society demand now.

OBJECTIVES

The purpose of this research is to accelerate the quality of training geared to the actual needs of practicing librarians at the post-master's level in library schools through a three-and-one-half-year program of research and development which will involve three phases:

Phase I: The primary objective of this phase of the study has been the assessment of job dimensions and educational needs of middle and upper-level personnel in libraries based initially on a survey of Federal librarians, Grades 9 through 14, who hold a degree in library science. It is the purpose of this phase to establish a sound and comprehensive data base which can be used in the planning and implementation of Phases II and III. It is this phase of the program, covering one-and-one-half years, that is described in this report.

Phase II: The development of models for pertinent courses for inclusion in a post-master's one-year specialization program is the chief objective of this phase. Using the systems approach to educational planning, the courses chosen for development and the content included will reflect the findings from Phase I of the program. The development of program content is based on the promise that every program of continuing education must be very carefully and continuously scrutinized and evaluated. It must always be alert to, and ever investigating, the wants and needs of the members of the profession as well as those of the user and society in general, and must fulfill these changing needs to the maximum within the limits of available money and teaching resources.

Phase III: The objectives of this phase are the testing and evaluation of the models developed in Phase II and the development of a post-MLS program which will ultimately be integrated with

the master's and doctor's degree programs.

FOCUS ON PRACTICING LIBRARIANS

Before delineating the specific objectives of the project, it is necessary to pause and clearly specify the audience for whom the proposed post-master's program is being developed as a result of Phase I of this study. Library education is at the crossroads today so far as the sixth-year programs are concerned. On the one hand there are the needs of future library educators to consider and on the other hand there are the needs of the practicing librarians. Traditionally, the fifth-year master's program makes no such distinction -- nor is it necessary at that level -- but the distinction, as asserted by Swank (Ref. 40), needs to be made at the sixth-year level. The sixth-year programs in existence today, according to Swank, aim primarily at education for the practicing librarians, but the Fryden study (Ref. 15) of post-master's programs in librarianship show that some schools try to do both.

Even as Swank suggests in the field of librarianship, Culbertson (Ref. 7) recommends in the discipline of education a differentiated training program at the postgraduate level for those preparing for administration and for those preparing for positions as teachers or researchers. Culbertson bases his argument for differentiation on the assumption that the skills and values, as well as the setting in which skills and values are to be applied by these two groups of personnel, are substantially different. Further, Culbertson contends that it is no longer possible for one given individual to acquire effectiveness in all aspects of knowledge utilization, and so he proposes a program for administrators and practitioners that is specifically different in regard to skills, values, and knowledge required from the program he recommends for the preparation and improvement of teachers and researchers.

In summary, it is advocated that the training for administrators and practitioners returning for post-master's training should unfold within the actual (or simulated) organizational setting while the problems prescribed for teachers and researchers would largely unfold within the university context.

It will be only in Phase III, after experimenting with the development and use of the model courses, that attention will be directed in more depth to ways in which sixth-year courses and programs might be reconciled with doctoral programs.

FOCUS ON FEDERAL LIBRARIANS

In a statistical study such as this one, it is always judicious to concentrate

on one sector of a large population because of the internal homogeneity of such a sector. The search for such a sector within librarianship ended with the selection of Federal librarians. The Federal libraries form such a homogeneous sector and seemed to satisfy all the necessary criteria for choosing a sector:

(1) In Federal libraries there is a uniformity in the definition of middle and upper-level personnel which makes the task of analysis easier.

(2) Federal libraries are distributed geographically all over the United States and the world. Also, within the Federal library sector every type of library service -- special, academic, public and school -- is represented. This automatically suggests the hypothesis that Federal librarians are representative of all types of librarians (which is verified in the study).

(3) Federal libraries have, in some cases, progressed further than other types of libraries in the use of current technological innovations and the development of new concepts such as those involved in automation, selective dissemination of information, use of systems analysis, development of communication networks, and the use of new management concepts such as program planning and budgeting. Therefore, it was premised that some of the newer technological and management advances would be adequately represented in the Federal library complex.

(4) The existence of library complexes, with regional branches scattered all over the country, makes the Federal libraries especially interesting from the point of view of future utilization of automation and the future development of information network communications systems, such as the one now being developed at the National Agricultural Library called the Agricultural Science Information Network Development Plan (Ref. 27).

(5) Since the Federal Library Committee was interested in the study and cooperated in the project in many ways, it was felt that the non-response rate would be low.

(6) The Federal Library Committee was able to make available a list of all Federal libraries, so that the population could be identified.

(7) Although Federal librarians are spread out all over the world, the heaviest concentration of middle and upper-level personnel is in the Greater Washington Area, which has meant that the Department of Library Science of The Catholic University of America has been in an excellent position to interview and make direct contacts with the personnel in all the types of

libraries represented within the scope of Federal librarianship. Thus the human and material resources essential to the study have been close at hand, making for convenience and economy in conducting the research.

PROBLEMS IN PHASE I

Before adequate continuing education programs for librarians can be planned and put into operation, it is necessary to know some very basic types of information.

(1) Ascertain the kinds of job activities in which middle and upper-level professional staff members of libraries are actually engaged.

It is necessary to know what kind of work middle and upper-level librarians are actually engaged in. The answer to the deceptively simple question, "What do people do in their jobs?" provides a more precise knowledge base on which to build courses and curricula than has been available before. It is necessary to know what talents and skills and concepts are required for middle and upper-level professional posts in the evolving library both now and in the future. What terminal behavioral patterns following a post-master's program are most needed in order to man and manage a library effectively? This study starts with the premise that in order to establish a sound base for curriculum development it is first necessary to study what concepts, knowlege, and techniques are required for personnel to perform at an optimum level of efficiency.

(2) Discover the self-perceived educational needs of the Federal librarian respondents.

Another essential input for curriculum construction was a listing of possible courses that might meet the needs of librarians as they planned for their individual career development. The Federal librarians indicated their educational needs in several ways: (1) the areas in which they would be interested in taking courses; (2) the areas in which they would be interested in taking workshops or short-term courses; (3) whether or not they would enroll for a one-year post-MLS program (as distinguished from single courses) in library science; (4) whether or not they would enroll for a doctoral program in library science; (5) whether or not they would enroll for a graduate program in non-library science subject areas at a pre-doctoral or doctoral level; (6) what type of formal study they had engaged in since receiving their MLS degree; (7) whether or not there were any formal scientific, technical or professional

courses they lacked which they felt would have been especially helpful to them in their present position; (8) whether or not there are activities that they felt they should be engaged in for which their previous training had not prepared them: and finally (9) their general suggestions for courses and curricula at the post-MLS level were solicited.

(3) Compare assessments made by top-level library administrative personnel toward curricular content with assessments made by questionnaire respondents.

A further input that the project staff considered as a necessary part of the research effort was to find out the extent of agreement between what the librarians expressed as their needs for courses and programs at the post-MLS level, and what their supervisors thought would be the most important elements to be added to the base knowledge which the MLS provides. How best should the employee receive training in these additional competencies? Answers to these questions will give an indication of how much support, regarding finances and time, the administrative personnel will be willing to use in promoting the program or programs developed.

It was also important to find the attitudes of supervisors toward post-master's education because it was found in the study by E. W. Stone (Ref. 38) that one of the three chief factors which prevented librarians from engaging in formal course work was lack of encouragement or a negative attitude on the part of their supervisors. In fact, one-third of the respondents in the study felt their supervisors opposed their taking formal course work at the post-master's level.

(4) Isolate and analyze variables (age, education, time in position, etc.) and isolate their relationship to job structure and course demands.

These variables related primarily to the background characteristics of the professional labor force, its education and experience, and its present status. Age, sex, degrees held, number of years of experience, present position, number of people supervised, years worked for the Federal government and amount of avoidable detail, are some of the kinds of information requested by the survey.

(5) Identify courses for which there is the greatest demand by practicing librarians and by top-level administrative personnel.

(6) Determine and develop some specifications for the model courses for Phase II, based on analysis of the data.

(7) Make a preliminary identification and study of new instructional techniques that might be effectively used in the development of the model courses planned for Phase II of the project.

The data used in the survey was obtained from a questionnaire sent to Federal librarians, grades 9 through 14, and from interviews with supervisory personnel, both of which are described in detail in Chapter III, "Design of the Study". The total scope of the research project, including Phase I, which is reported in this paper, as well as the program elements proposed for Phases II and III are summed up in Appendix A.

RELATED RESEARCH

Throughout Phase I of the project, a review of relevant literature was carried on concurrently with other activities. Depending upon the needs of the project at different periods of time, this literature search concentrated on such areas as: investigation of current related projects; survey of current trends in library science education and curriculum development; continuing education; the methodology of constructing job inventories; techniques of questionnaire construction; interview techniques and techniques of constructing an interview schedule; systems approach to educational planning and curriculum building; preliminary identification of instructional techniques and methods that would seem to be of value in developing and packaging new library science courses. The literature in these areas which would seem to be the most valuable to others planning post-MLS educational programs is listed in the Bibliography by major subject areas.

Courses and Programs at the Post-Master's Level in Library Science.

In the specific area of post-master's programs in library science or a sixth-year program, there is very little to be found in the literature. The chief source of information on the programs is found in the study by Fryden (Ref. 15) and an article by Swank (Ref. 40).

In Williamson's (Ref. 42) report of 1923 to the Carnegie Corporation, the weaknesses of library education in this country were forcefully presented. One of his recommendations was that all library schools be attached to institutions of higher learning. This change gradually took place.

In 1926 the Board of Education for Librarianship of the ALA, after consultation with the Association of American Universities, determined that a student who had completed a year's work in librarianship after four years of college work would receive a second bachelor's degree (BS, BSLS, etc.) rather than a professional master's degree. It was decided that advanced

training could be obtained through the sixth-year programs at the Type I library schools, and, after 1928, the doctoral program at the University of Chicago.

In the early 1950's this pattern began to change. The BLS was converted into a fifth-year master's degree, the sixth-year master's rapidly disappeared, and the doctorate was offered at more than one library school. The point to be emphasized in this study is the fact that the sixth-year master's degree almost completely disappeared. That degree was intended to provide advanced training needed by the profession, but to be less demanding that the work needed to obtain a doctorate. Although many library schools have allowed interested persons who have had training in librarianship to take additional course work on an informal basis, the degree program per se has virtually disappeared. In the last few years, however, several library schools have inaugurated formal programs of instruction at the post-master's degree level which are distinct from the doctoral programs.

These programs, most generally designated as "post-master's programs" were examined by Fryden (Ref. 15) in 1968 at which time he found that there were eleven such programs in American library schools accredited by the American Library Association's Committee on Accreditation. References to these programs are few, and there never seems to have been a printed list of schools offering such programs until Fryden made his listing early in 1968. He included: University of California at Los Angeles, Columbia University, Emory University, Florida State University, the University of Illinois, Louisiana State University, the University of Maryland, the University of Minnesota, the University of Pittsburgh, Western Michigan University, and the University of Wisconsin. In addition to the eleven schools cited by Fryden, the research staff found that in the fall of 1969, eight other schools stated in their most recent catalogs that some kind of advanced certificate or degree was offered for completion of a sixth-year program. Those listing such programs were: Drexel, Kent State, Michigan, North Texas State, Peabody (which had some type of program which ran until 1965, but was discontinued until the fall of 1968), Texas, and Texas Womens University -- a total of sixteen in all.

After his study of the programs in operation at the time of his report, Fryden (Ref. 15:26) raised some pertinent and troubling questions about the present status and future prospects of these programs. "On what base do these programs build?" Fryden found that the requirements varied widely from school to school. He also found that there was not a clear relationship between the post-master's programs and the doctoral programs.

Fryden gave particular attention to the coincidence between the availability of governmental funds and (1) the dates when the programs

began and (2) the number of students. He raised the pertinent questions: "What would happen if the funds were severely cut or dropped completely? To what extent would the universities then fund the programs themselves? Indeed, what would have happened if no outside money had been available?" In fact, at least one of the programs listed by Fryden has been dropped because of the lack of Federal support.

He queries further as to whether other schools will start post-master's programs and whether these will depend on outside sources of money, and asks if the programs will eventually require some sort of evaluation and accreditation. He asks:

> To what extent is it proper that the Office of Education be the agency which so strongly controls the destiny of the programs? In short, by relying so heavily on outside funds which are subject (1) to Congressional vagaries, (2) to competition from the requests from other library schools, and (3) to an extra-mural committee and the Commissioner of Education; do the schools surrender a part of their autonomy? (Ref. 15:29)

Fryden concludes with the general, but practical, suggestion that other occupational groups be examined to see what they do to promote continuing education beyond the first professional degree.

In writing about these programs in library science in 1967, Swank (Ref. 40: 17) asserts that "sixth-year programs of specialization are desirable and may indeed soon be necessary." He emphasized, as noted earlier in this chapter, however, the necessity of distinguishing education for service from education for teaching or research. Swank candidly sums up the library profession's provision for post-master's programs in one short sentence: "We are all mixed up."

Currently, Danton (Ref. 8) is conducting a survey of the post-master's programs in the library schools accredited by the American Library Association in order to determine their aims, content and methods. This is a special project of the Committee on Accreditation of the American Library Association made possible through a J. Morris Jones, World Book Encyclopedia, ALA Goals award for 1969-1970.

A recent study by E. W. Stone (Ref. 38) provided some evidence that graduate librarians do not rate formal course work at the post-master's level as truly important to their career development when weighed against other professional activities. In this study the librarians were asked to indicate the relative importance of 37 opportunities for professional development. Out of these 37 items a sixth-year program in library science received the lowest possible rank. Other types of formal course

work also received low rankings from the respondents, who were 1956 and 1961 graduates of accredited American library schools. Formal course work beyond the MLS for certification purposes ranked 36th. Formal course work toward getting a second master's in a subject speciality was 28th. Formal course work toward getting a doctorate ranked 25th. In this same study, the librarians were also asked to indicate their own degree of involvement in the 37 opportunities. In the amount of involvement in relation to the other opportunities, formal course work again received uniformly low rankings. Rank 37 was formal course work in sixth-year post-master's programs; rank 34 was formal course work for certification purposes; rank 31 was formal course work toward a second master's degree in a subject speciality; and rank 30 was formal course work toward a doctoral degree.

It was also found that only 5.8 per cent of the entire sample of 138 librarians had obtained an additional advanced degree following the MLS. However, 38.4 per cent had taken some courses for credit after the fifth-year master's degree in library science. Apparently the respondents recognized the importance of knowledge in the area of automation since this was a substantial favorite of the workshops and short courses that they took. Of these short courses in automation, however, 19 per cent were evaluated as being of little or no help to them in their jobs.

Further the Stone study found that the three forces that most strongly influence librarians to enroll in formal course work were: (1) the opportunity to use new knowledge on the job; (2) the high quality of course work itself; and (3) opportunity to be exposed to new and creative ideas. The major deterrents to taking such work were: (1) lack of available time and the difficulty of scheduling; (2) inconvenience of formal course work; and (3) lack of encouragement from the respondent's supervisor, administration, or board. These findings and others within that study point to the need for library schools to weigh properly the importance of motivation in encouraging librarians to study at the post-master's level. They also point up the dilemma that the profession faces, as concluded in that study, of re-evaluating the type of activities that the librarian considers most important for his professional development in order to meet the felt needs of society today in terms of improved service.

Also relevant to the present study was a survey in 1968 by Phillips (Ref. 30) which identified the most pressing training needs among Federal librarians then. Based on replies from 95 respondents with an average grade level of 9.5 and 10 3/4 years in the Federal service, the top five training needs listed by the respondents were: (1) keeping up-to-date with developments in library science; (2) staff development and motivation; (3) application of automatic data processing to library activities;

(4) management practices and problems in Federal libraries; and (5) human relations and supervisory practices.

The Professional Education of Media Service Personnel (Ref. 39) a report on one of the projects of the Center for Library and Educational Media Studies at the University of Pittsburgh addresses itself through a series of papers by specialists to the problems involved in developing a curriculum on three graduate levels for the professional training of media specialists in schools and colleges. It defines the various competencies, skills, and knowledges required by the specialist; it points out the interdisciplinary nature of media service and the need to draw upon the sources of such areas as educational psychology, communications, sociology, and computer sciences; and it further indicates the need to identify and evaluate new instructional techniques to be used in the training programs.

Continuing Education Beyond the First Professional Degree in Related Disciplines.

In his work on the professional school, McGlothlin (Ref. 23) stated that a qualified professional should be "competent in practice of the profession, social understanding, ethical behavior, and scholarly concern." He placed responsibility for this accomplishment on the professional school when he added: "These aims are not reached, therefore, at a single point in time. The school must judge itself and be judged on its influence over the full careers of its graduates. Nothing less than endless growth can be considered success."

In recent years professional schools have become increasingly aware of the necessity for being concerned about continuing education. Speaking at the 1967 Midwinter Meeting of the American Library Association, Houle (Ref. 20) expressed the importance of continuing education to professions in the following statement.

> While continuing education will not cure all the problems of the professions, without it no cure is possible. The task for this generation is to work, amid all the distractions and complexities of practice, to aid the individual, either alone or in his natural work groups, constantly to refine his sensitivities, to enlarge his conceptions, and to increase his capacity to discharge the responsibilities his work requires as that work is seen in the larger contexts of his own personality, and the society of which he is a part. In all such efforts the ultimate aim -- seldom sought directly, but always present -- is to insure that the active members of a profession exercise the self-discipline and the dedication which their preferred positions impose

upon them.

A sampling of some of the many studies in related disciplines which have recognized the necessity for continuing professional education, especially in the provision of formal course work beyond the first professional degree, are cited here.

In turning to other professions to find what is being done to develop those already recruited and practicing in their chosen fields of specialization, the philosophy presented by Corson and Paul (Ref. 6) for developing top level personnel in the Federal system contains many concepts that would seem applicable to the development of continuing education programs within librarianship. Corson takes the point of view that before any recommendation can be made regarding training and career development it is first necessary to focus on the functions actually performed by the men and women now serving in top-level positions. In short, to find what people actually do in their positions. The answer to that question will suggest the talents and capabilities required. On the basis of the findings from a detailed questionnaire completed by 424 top-level respondents and from extensive personal interviews, Corson (Ref. 6:156) emphasizes the need for replacing old knowledge and old skills with new. "The higher the career executive rises and the more years that elapse after he has started his career, the greater is the need for replacing the obsolescent both in his understanding of the substantive field and in administrative technique."

The necessary updating and substitution of new methods and concepts for old ones, Corson affirms, can be provided in a university setting, if the institution recognizes the individual's own need and does not force the individual into a rigid program reflecting the faculty's conception of the individual's needs, or into courses and seminars designed for the training of doctoral candiates preparing for teaching and research.

The importance of offering differentiated training programs for those wishing to improve their ability as practical administrators as distinguished from those wishing to prepare themselves for teaching or research, is also reflected in current writing in education as exemplified by Culbertson (Ref. 7) in a paper referred to earlier in this chapter. Culbertson is very specific in his description of how these programs should differ. For example, instead of research paper or thesis type of assignments for those preparing for administrative positions, he recommends work on major administrative or leadership problems, or work with a team which would apply research findings in decision situations in an actual work situation, based on systems analysis. He suggests further that the administrative group might work on organizational changes needed in a given institution in order to achieve better management or planning. In other words, the administrator and the practitioner would

derive learning experiences within the context of actual situations covering the problems which would confront them when assigned to a position of institutional leadership.

The need for programs developed especially for the manager or administrator who wishes to improve his abilities for further service on the job is reflected in the findings from a survey of university catalogs which revealed that in a large number of occupational areas special programs were available beyond those required for the first professional degree. For example, it was found that there were provisions for a master's in administration in such areas as engineering, business, education, pharmacy, agriculture, hotel, hospital, and public administration. In the area of hospital administration alone there were 19 universities who belong to the Association of University Programs in Hospital Administration and offer a master's degree in administration for practitioners.

Examples of studies and research in other professions which are helpful as background material in planning and offer examples of many innovative approaches to the problem of continuing professional education include: Hewitt (Ref. 18) for pharmacy; Dubin and Marlowe (Ref. 14) and Reisman (Ref. 32) for engineering; Taylor (Ref. 41) and Knox (Ref. 22) for law; National Education Association (Ref. 28) for education; McMahon (Ref. 24) for adult education; Dubin and others (Ref. 13) for public administration; Dubin (Ref. 12) for business and industry; Dryer (Ref. 11) for medicine; Mosher (Ref. 26) and Honey (Ref. 19) for public service; and Randall (Ref. 31) for science administration.

Studies of Types of Librarians.

In planning courses and curricula it is not only essential to know the tasks that are being performed by those for whom the planning is being done, but it is also important to know the background characteristics of that group so that this data can be correlated with other data obtained and patterns established. Some studies have dealt with the characteristics of types of librarians, although few have been national or comprehensive in scope of coverage. Morrison (Ref. 25) and Schiller (Ref. 35) are the most comprehensive in the area of academic librarianship. Bryan (Ref. 3) and Dreman (Ref. 10) and Alvarez (Ref. 1) surveyed the characteristics of public librarians, while Hall (Ref. 17) has isolated knowledge, skills, and abilities emphasized in certain types of public library activities and analyzed them in relation to course offerings at the master's level in library schools. Another study by Clayton (Ref. 5) appraises the personality characteristics among library students.

A major project now in progress is the School Manpower Project being conducted by the NEA, which in some ways parallels for school librarians

this study on Federal librarians. About to be released is the first published report of the study, entitled School Library Personnel Task Analysis Survey (Ref. 29). Two other major phases of this five-year program center attention on education for school librarianship and recruitment.

In the area of special librarianship the Special Libraries Association conducted an age survey in 1965 (Ref. 37) and a salary survey in 1967 (Ref. 36). Summary data concerning personnel of special Federal libraries, of value to the present study, can be found in Schick and Howard's survey (Ref. 34) of special libraries serving the Federal government.

Appropriate material from all of these studies, as well as many others that are cited in the Bibliography in relation to specific phases of the project, has been drawn upon in its design and accomplishment. But this study focuses its attention principally on a matter of primary concern to the profession, and one which was emphasized by Asheim(Ref. 2) in his report to the National Advisory Commission on Libraries, namely education tailored to the demands of the field.

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CHAPTER II

THE DESIGN OF THE STUDY: METHODS AND PROCEDURES

The purpose of this chapter is to describe the procedures and methods utilized in the design and execution of the study.

GENERAL METHODOLOGY

Prior to separating the procedures and methods into individual parcels for explanation, the presentation of an overview of the total design makes the methodology more meaningful to the reader. A detailed discussion of individual components follows.

The first data-gathering instrument for the study, a questionnaire containing 392 items[1], was sent to a randomly selected sample of Federal librarians, grades 9 through 14, holding a master's degree in library science. The questionnaire is Appendix B. Three-hundred-and-sixty-five Federal librarians completed and returned the questionnaire.

The second data-gathering instrument was an interview with 20 top-level library administrators, which was designed to (1) supplement and combine the data gathered through the questionnaire, and (2) compare the assessments made by the librarian respondents with those made by the top-level administrators concerning courses, curricula, and programs at the post-master's level. Details concerning the interviews are presented in the last section of this chapter.

THE DESIGN OF THE STUDY, I: THE QUESTIONNAIRE

The questionnaire as mailed to the librarians in the sample was entitled: "A Study of Job Dimensions and Educational Needs: Post-MLS Education for Middle and Upper-Level Personnel in Libraries and Information Centers." The arrangement was logical and at the same time was designed with the intent of sustaining the respondent's interest. The wording, especially the headings, was deliberately made personal.

The covering letter attached to each questionnaire identified the Project Director and the Associate Project Director. It also explained the benefits of the study to the individual respondent and to the profession as a whole. It assured the anonymity of the replies. The covering letter and a follow-up letter are presented in Appendix C.

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[1]There are 430 numbered items in the questionnaire, but 38 of these are labelled "Other" to be filled in by the respondent if needed to specify something not on the basic list.

The final structure of the questionnaire is shown by its headings which follow·

Part I: Evaluating Job Activities You Perform in Relation to Time and Importance

Part II: Your Educational Needs

Part III: Some Information About Yourself and Your Career

Part IV: Lastly, Your Ideas and Comments

Part I: Job Inventory.

Objectives. The primary purpose of the job inventory is to answer three important questions: "In what kind of job activities are the middle and upper-level professional staff members of libraries engaged?" "How much time do they devote to these activities?" "How important are these activities at the level of the individual position?"

It is the current view, supported by considerable research evidence, that the development of well-defined job-relevant objectives based on the individual's needs for effective job performance is the aspect of curriculum development that should receive primary emphasis. Smith (Ref. 25) has stated that job-related objectives, appropriately developed, provide clear guidance for a systematic development of the course content.

It was found in a recent study by Stone (Ref. 26) that application of knowledge in the actual job situation was the primary motivation for engaging in formal course work at the post-master's level. This supports the premise that curriculum development at the post-master's level must start with an accurate assessment of the librarian's job activities.

Background. There have been many surveys to identify what the individual actually does on the job. These were studied carefully, and the advantages of the different methods were noted. The decision was reached that the job inventory was the method best suited to gather information on what the Federal librarian does in his job.

Previous Studies. One of the most common approaches to the study of job activities is the use of a "self-recording" system in which the respondent records how he utilizes his time on an analysis sheet provided by the investigator. Three important studies using this method were: (1)Carlson's influential work on the behavior of Swedish executives (Ref. 8); (2) Corson and Paul's recent study of top-level Federal

employees (Ref. 9); and (3) Underwood's administrative profile for the director of a hospital (Ref. 28).

After reviewing these and other studies using self-recording techniques, it appears that these techniques have not yet produced any one generally reliable instrument for measuring duties performed by managers and administrators. Some of the studies, such as the one by Corson and Paul, do not fully analyze all the data obtained from the detailed diaries that were submitted. A known weakness in this method is that the very act of recording behavior influences the individual's performance during the time that the diary is kept, thus affecting the validity of the results. The technique of the detailed daily observations of employees is subject to this same criticism of observer affecting observation.

The open-end questionnaire is the common means for obtaining job-related information through a mail survey. The questionnaire usually asks for certain identifying information about a job, and provides space for the respondents to write in additional personally descriptive information. Morsh (Ref. 19) points out that this method tends to produce data which is invalid in content and amount.

The individual interview is another method by which the analyst records data on a standardized form. This method usually combines responses from several interviews on a specific type of position. The interview, like the questionnaire, depends to a large degree on recall. Its value is largely dependent upon the competence of the interviewer, and it cannot be used for large samples.

The job inventory might really be considered as a special kind of questionnaire which utilizes a list of descriptive task or activity statements. In its simplest form the incumbent is asked to check the tasks he does in the course of his work, and asked to rate each item according to scales for amount of time, degree of importance, and necessary knowledge or experience.

Examples of the use of the job inventory are legion; a few will illustrate the scope and possibilities of this method. The classic study was one conducted by Hemphill (Ref. 14) involving 93 business executive positions. Each of the executives completed a questionnaire containing 575 position elements, and described his position on an eight-point response scale in terms of the degree to which each element was a significant part of his position. Later Hemphill constructed a shortened version of the questionnaire, containing 191 items, which has been very influential in the development of other job inventories and was the basis on which the Educational Testing Service (Ref. 11) developed their "Job Dimensions Project". Another significant study based largely on Hemphill's method, which has

particular relevance to this study was the study by Curnow (Ref. 10) of Federal executive positions.

The chief problem inherent in the job inventory method is that there is no information provided about the sequence in which activities are performed. This is a disadvantage in comparison to other methods mentioned in this section. However, the sequence is not important in the building of courses, which was the main use for which data from this part of the questionnaire was used.

Rationale for Choosing the Job Inventory Method for this Study. The job inventory has many advantages which are responsible for the decision to use it to determine what an individual actually does in his job. One such advantage is that it is amenable to statistical analysis. The uniformity of the data collected makes meaningful statistical statements possible with a minimal loss of reported information. Using a questionnaire form for the inventory permits a broad sample to be queried.

A further advantage is the fact that the procedure is simple for the respondents. Instead of trying to recall all duties and tasks, it is much easier for the respondent to check the items listed and give an evaluation of the time and importance of each item. Since all the information is gathered on a single standardized form, it permits simple, rapid quantification by hand or by machine tabulation. Information about the job items, such as frequency and time of performance, importance of task difficulty, and supervision required, can be easily built into the inventory.

The process provides a practical and economical method for obtaining job information from any number of respondents and makes possible the gathering of such information at each of the grade levels included. Also the standardized form used in the inventory greatly facilitates comparison of work performed across jobs within a speciality or among specialties.

Some basic assumptions underlie the use of the job inventory. First, it is assumed that the incumbent of a position is the best qualified informant concerning the nature of his work. Other researchers using this method have considered this a reasonable assumption. Hemphill (Ref. 14), after performing tests in this area, concluded: "These comparisons provide no evidence which would suggest that incumbents tend to distort the descriptions of their positions in a favorable direction." Secondly, it also assumes that the incumbent is capable of rating on appropriate scales the time required for a number of job activities relative to other activities, and further, the importance to performance

of each task.

Finally, it is assumed that the job inventory items represented the actual work undertaken in common by Federal librarians. This assumption is verified in the questionnaire under the heading, "Applicability of the Questionnaire".

Construction of the Job Inventory. The first research effort for the job inventory involved making an extended list (about 400 cards with one activity per card) of job activities undertaken by Federal librarians. For the section on administration and management functions, the published questionnaires of Curnow (Ref. 10), Hemphill (Ref. 14), McLennan (Ref. 17), Morsh (Ref. 19), Saunders (Ref. 21), Teller and Camm (Ref. 27) provided a large percentage of items for the first draft which were necessarily modified to fit the Federal library setting. Studies of descriptions of executive work, such as Bernstein (Ref. 4), Carlson (Ref. 8), Corson and Paul (Ref. 9) and Underwood (Ref. 28) suggested other items, as did standard works on public administration and management, such as Koontz (Ref. 15). Useful sources of activity items for Part I-A of the questionnaire, Specialized Library Functions, were the U.S. Civil Service Standards for the 1410 and 1412 Series (Refs. 29, 30), published job descriptions, library science course syllabi, works describing job functions in libraries and information centers such as Meltzer (Ref. 18) and Wallace (Ref. 31). Finally, criticisms and comments from three pre-test pilot groups representing a wide range of grades, positions and types of Federal libraries, and from both faculty and master's candidates (with a wide variety of work experience) in the Library Science Department at the Catholic University of America proved very helpful in reducing the list to the 223 items actually used in the questionnaire, Part I.

Each respondent was asked to consider statements relating to his job activities in two dimensions -- time and importance. For those statements applicable to a given position, a rating was to be made on two separate scales. Each scale had four degrees of applicability from which the respondent could choose regarding a given job activity item. The four levels from which ratings were to be made were: (1) "one of the most time-consuming (important) activities of the position;" (2) "consumes a substantial part of the time" (a substantial part of the position);(3) "is one of the least time-consuming (important) activities of the position;" and (4) "the factor is not present at all in the activities of your position now."

The job inventory was divided into two sections:

A. Performing Specialized Library Functions (items numbered 1 through 127).

B. Performing General Administrative and Management Functions (items numbered 128 through 244)

It should be noted that in the section "Performing Specialized Library Functions" there are 13 areas of job activities listed: abstracting, acquisitions, bibliography, cataloging and classification, circulation, clientele services, indexing, literature searching, maintenance of holdings, reference, research, selection and translation. Each of these areas has a group of activity items listed under it.

Similarly, under the section "Performing General Administrative and Management Functions," there are 8 areas of activity listed: planning, organizing, staffing, directing, coordinating, controlling, representing, and housing.

It should also be noted that the Part B items apply to the administrative and management functions that the respondent performs in his job, whether it be for the whole library, a department, a branch, or a specialized library function, such as cataloging or reference service.

In selecting the items for inclusion in the final edition of the questionnaire, certain criteria were used:

(1) Avoidance of statements which were so general that they would apply equally to all executive positions;

(2) Avoidance of items so specific that they would be restricted merely to one or two positions;

(3) Each item must differ in some way from all the others;

(4) Each statement must lend itself to a rating on the dimensions of both "time" and "importance";

(5) Each item must represent what the individual actually does in his job.

Part II: Educational Needs.

Background. Established curricular guidelines for library education at the post-master's level are still lacking; but, as Fryden (Ref. 12) points out, the demands for librarians with some training beyond the fifth-year master's degree is greater now than ever before. In Fryden's report on the eleven ALA accredited American library schools which offered a sixth-year post-master's program in 1968, there is abundant evidence that differing philosophies, objectives, standards, content, and

requirements of these programs have produced as many variations as there are schools offering them. The question asked by Fryden is quite logical and worthy of an attempt to answer. "On what basis do these programs build?" (Ref. 12:

In this study it is deemed important to know the dimensions of the demand for post-master's education as perceived by the middle and upper-level librarians themselves. Practically, it must always be remembered that whether students enroll or not at the post-master's level is strictly a matter of personal choice. The choice of courses at this level is largely determined by the practicing librarians. Hence, to build courses in a vacuum without relationship to the actual demand of practicing librarians would constitute merely an intellectual exercise rather than a genuine contribution toward the continuing education of librarians.

The purposes for which this section of the questionnaire was designed are:

(1) To identify those subject areas which practicing Federal librarians are most interested in studying at the post-master's level.

(2) To identify three types of interest in the listed courses: (a) interest in a workshop or institute; (b) interest in the course now; (c) interest in the course later (identified in the questionnaire as three to five years from now); and to rank the different courses according to the type of interest or combinations thereof.

(3) To critically examine this interest in relation to other variables analyzed in other parts of this study. For example, to determine whether the respondents are chiefly interested in studying in areas that are related to their present positions or in new areas.

(4) To determine the interest of the respondents in further education in library science or a graduate program in another subject area.

Procedures. This section II entitled, "Your Educational Needs", contains two sections. The first section of Part II lists 78 courses,[1]

[1]Under each of the 17 broad course areas, there is a numbered item labelled "other", so that there are 95 numbered lines in this section, but only 78 course titles are listed.

grouped under 17 broad course areas.[1] It was developed with the intent of representing essentially all areas of library science which could be considered of possible value to the practicing librarians. The procedure involved in the design of the list is summarized below.

Course listings from catalogs of all ALA accredited library schools, of a few non-accredited library schools offering graduate programs, of a selected group of schools offering graduate programs in information science, and of a few of the leading schools of business and public administration in various sections of the country, as well as courses listed by Schilling and Berman (Ref. 24) in their suggested science information specialist training program, provided the basic list of courses with which the research team started. On the basis of these procedures, reasonable coverage of on-going library science and related programs was assumed.

Each course title with its description from the sources examined was placed on a separate card. This curriculum deck was then arranged by major course areas and then by individual courses. From these courses, those that are usually taught at the master's level as part of the core or required degree program were eliminated. The cards with their descriptions provided the master list of courses.

Next a group of specialists went over the master list combining, regrouping, and eliminating and renaming courses; always keeping in mind the following guidelines.

(1) The final list of courses should be exhaustive, as far as possible offered at the post-master's level;

(2) There should be very little overlapping between the contents of the courses;

(3) The courses should be homogeneous;

(4) The courses should be, in so far as possible, of equal length; and

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[1]The 17 course areas are: acquisitions and selection; administration and general management of libraries; administration of special types of library services; automation; bibliography; cataloging and classification; circulation; clientele services; housing and equipment; indexing and abstracting; information science; libraries, government and society; publication; reference; research; specialized information sources; and systems analysis.

(5) The courses should be given the title most appropriate to describe the content.

A new list established by these procedures was formulated, in which the courses were listed by title only, except in those instances in which there was scope for doubt as to possible content, when a brief description was included. This new list was submitted to three pilot groups, and based on their recommendations received for additions, deletions, and regrouping, was further modified by the research staff. The result is the listing of 78 courses presented in the first section of Part II of the questionnaire.

To those not familiar with recent curricular development at the post-MLS level, some of these courses might seem to have insufficient content to sustain a semester's work. Most of the current MLS offerings only touch on these new areas of professional activity. However, at the post-master's level they stand independently as a full course to be studied in much greater depth and scope, commensurate with the new technological, behavioral, and societal advances, and to provide a great deal more information and greater conceptual understanding than possible at the master's level.

Each respondent was asked to check his interest in taking these 78 courses according to the following categories (Questionnaire, Part II, p. 6):

WORKSHOP:	If you are interested in spending time in a short-term (few days to four weeks) workshop or institute;
COURSE NOW:	If you are interested in taking a post-MLS course for credit at the present time;
COURSE LATER:	If you are interested in taking a post-MLS course for credit at a later time (three to five years from now).
[ ] [ ] [ ]	If you are not interested in formal study in a given course, please leave the boxes that pertain to it blank.

The second section of Part II asks if the respondents will:

(1) Enroll for a one-year post-MLS program in library science?

(2) Enroll for a graduate program in some other subject area?

(3) Enroll for a doctoral program in library science?

(4) Enroll for a doctoral program in another subject area?

The respondent is also asked what conditions would be necessary for him to enroll.

The final question in this section is: "In addition to offering courses, institutes, and workshops, in what other ways do you see that the library school could help you in your professional development?"

Part III. Background Characteristics.

In this part of the questionnaire there are a total of 80 questions. These data make it possible to isolate and analyze variables relative to the respondents' professional experience and present position and provide valuable clues to examine the job structure and course demands in depth.

Personal background characteristic variables include: age, sex, position title, GS grade level, educational level, degrees held, experience in occupations other than librarianship, length of time in present position and in the Federal service.

"Position variable" items include: occupational series code; major responsibility of the position; whether the position is located in an agency headquarters office, regional, field, or branch library; size of library; and number of people supervised.

Other information that is asked for which it is felt will give valuable background data for curriculum building includes the following: (1) Is there any formal scientific, technical, or professional training you lack which you feel would have been especially helpful in your position? (2) What minimum experience in library or information center assignments is required to perform your job? (3) How well does your job utilize your talents? (4) How many hours per week are you required to do avoidable detail work that you feel should not be part of your job? (5) Are you involved at an administrative or supervisory level in applying electronic data processing procedures? (6) Which activities in your library are automated? (7) What is the nature of your past experience in an occupation other than librarianship? (8) What knowledge, abilities or skills would you recommend for your replacement?

The objective in gathering background information about the Federal librarians was to provide a basis for realistic planning of potential course and curricula offerings at the post-master's level. Educational planning for librarians will be haphazard, at best, without definite knowledge of the qualifications and characteristics of those for whom continuing education programs are planned. In order to study in depth the demand for further training, it was necessary to study these characteristics to

determine whether or not patterns existed between these, their job structure, and their educational needs. In order to fully understand the demand structure for courses, it is necessary to see what characteristics typify those expressing interest in courses and in engaging in a post-master's program.

It was also necessary to learn of the background and personal characteristics of the Federal librarians in order to verify the premise that Federal librarians are representative of the large population of librarians in general. This type of data permits an assessment of whether the respondents are "typical" of other types of librarians.

Part IV. Reactions to the Research Project.

In the last section of the questionnaire there were three open-end questions. The first asked for the respondents' comments on the job inventory; the second sought their suggestions regarding courses and curricula; and the third asked for their reaction to the study as a whole.

The Pre-Tests.

Three pre-tests of the questionnaire were carried out with groups of Federal librarians. Details of the pre-test samples are summarized below in Table 1.

TABLE 1
PRE-TEST SAMPLES: 1968

Group Number	Number in the Group	Number of Federal Departments and Agencies Represented	Source of Sample
I	12	11	Judgment sample designed to pick representatives from various grade levels, library schools and types of positions.
II	4	4	Judgment sample of top-level Federal library administrators.
III	10	10	Judgment sample designed to cover higher percentage in GS 9 level than in Group I and to cover agencies and types of positions not covered in Group I
Total	26	25	

These three pre-test groups were of great help in determining the final form of the questionnaire which was systematically studied item by item to insure the inclusion of all of their suggestions which seemed valid tc the research team. The final version of the questionnaire was printed on yellow paper in order to attract attention on a full desk top.

The selection and nature of the sample to whom the final version of the questionnaire was sent along with the covering letter are considered in detail in the following section.

DESIGN OF THE STUDY, II: THE SAMPLE FOR THE QUESTIONNAIRE

Defining the Population.

The ultimate objective for this study was to build curricula at the post-master's level, hence the research team logically concluded that the population for this study should be librarians with a graduate degree in library science. On page 11 of the questionnaire, when questions are asked about professional and pre-professional experience, this definitional note was inserted:

> In this study, the term "professional librarian" includes all librarians, administrators and other specialists with responsibility in the field of librarianship or information science who have received a Master's degree in Library Science, or, before the early 1950's, a Bachelor's degree in Library Science at the graduate level.

How to define the "middle and upper-level" was a problem that had to be decided early in the study. Prior researchers, facing a similar problem, decided that within the Federal complex, rank is the most appropriate of possible differentiae. As Warner, Van Riper and others (Ref. 32 :289) state: "...In the civil service...rank...reflects level of work, responsibility, and official status, all on a fairly uniform basis throughout the service." However, all the experts differ in their decisions as to the grades that should be included in the "upper" demarcation, as distinguished from "lower" grades.

The situation was further complicated by the fact that at the very time this decision was being made the U.S. Civil Service Commission ruled that in the Fall of 1968, the entering level for the MLS library school graduate would be grade 9, replacing the entry level of grade 7 previously in effect.

However, in consultation with the Federal Library Committee, individual Federal librarians, and government executives, it was realized that to exclude the GS 9 category from the population would eliminate the directors and administrators of a large number of Federal libraries outside the greater Washington area. It had been found in the Schick survey (Ref. 22) of Special Libraries serving the Federal government that more than half (56 per cent) of the chief librarians in Federal agencies were GS 9 to GS 11. Curnow (Ref. 10) has pointed out in his study that field positions tend to be classified somewhat lower than positions of similar responsibility in the greater Washington area. Therefore it was necessary to include GS 9 personnel in order to get the directors of many libraries in Federal field installations. It was the belief that these librarians, in some cases supervising a considerable number of persons and sizeable collections, were involved in duties of a caliber that would be considered "middle" or "upper level" by almost any definition. It was also believed that the GS 9 level might contain many librarians who would want to come back for post-master's studies.

Weighing all these factors, the research staff decided to include GS 9 in the study.

The upper demarcation line was also a problem. It centered around grade 15 which had 35 librarians. The main reason that they were excluded was that part of the research design for the study included interviews with 20 top-level library administrators and grades 16 to 18 together had only 11 librarians according to data provided by the U.S. Civil Service Commission in June, 1968.[1] Hence, the 35 librarians in grade 15 were needed for inclusion in the interview group.

In summary, the following operational definitions were established for the librarians in this study:

GS 9	Lower middle level
GS 10, 11	Upper middle level
GS 12, 13, 14	Upper level
GS 15 through 18	Top-level administrators

A limitation which this study shares in common with other studies undertaken within the Federal complex is that security organizations such as the Central Intelligence Agency, and the Federal Bureau of Investigation are excluded from this study.

[1] A subsequent release of the U.S. Civil Service Commission increased the figure to 21 after the survey to the Federal Libraries to determine the number in the population from GS 9 through 14 was already in progress.

The information for librarians employed at the Library of Congress had to be secured in a different manner from that of the other Federal libraries. There were at the time of the questionnaire 832 librarians employed at the Library of Congress in grades GS 9 through GS 14, but no record was easily accessible for determining whether or not they had graduate degrees in library science. Further, contrary to the procedure followed by all other types of Federal libraries, the Library of Congress does not identify individuals by GS ratings. This list of 832 positions, arranged by departments and then by position titles, was carefully examined and reduced to 614. The research team was reasonably confident that these 614 would include all the people in the Library of Congress with a degree in library science.

Table 2 gives separately for the Library of Congress and other Federal libraries the breakdown of the total population of librarians, GS 9 through 14, with a graduate degree in library science, by agency.

The Sampling Frame.

In order to identify the population of the Federal librarians for the study, the research team was fortunate to have a mailing list of Federal libraries compiled and supplied by the Federal Library Committee. To this was added the names of a few information centers provided by COSATI.

Eliminating duplications, the figure of Federal libraries (and information centers) stood at 652 (excluding Army libraries, Air Force libraries, and the Library of Congress).

A covering letter telling of the study and a form requesting a list of librarians in the 1410 and 1412 Series, grades GS 9 through GS 14 with a graduate degree in library science, was sent to all Federal libraries (and information centers). (For letter and form, see Appendix D.) In order to increase the percentage of returns a follow-up letter (see Appendix E) was sent three weeks later to those libraries from which returns had not yet been received.

Out of these 652 Federal libraries, 529 libraries replied, listing a total of 765 professional librarians. The research team got the complete list of Army and Air Force professional librarians (totalling 582) from their respective services.

Thus the total number of names of professional librarians received, who according to the data supplied fell within the criteria of limitation, was 1347 (except for the Library of Congress). Only six of these were in the 1412 Series.

TABLE 2

BREAKDOWN OF THE TOTAL POPULATION OF PROFESSIONAL FEDERAL LIBRARIANS[1] BY AGENCY OR DEPARTMENT AND GRADE AS OF FEBRUARY 3, 1969.

Agency or Department	Code	Grade Level 9	10	11	12	13	14	No CSC Grade	Total	Percentage of Total
				STRATUM I						
Library of Congress	0000	196	3	200	115	60	40	0	614[2]	
Percentage of Total		31.92%	0.49%	32.58%	18.73%	9.77%	6.51%	0.00%	100.00%	
				STRATUM II						
Army	1000	84	17	86	34	12	2	0	235	17.44%
Navy	2000	53	0	34	18	7	2	0	114	8.46%
Air Force	3000	188	19	97	32	8	3	0	347	25.76%
Veterans Administration	4000	55	38	33	6	2	1	0	135	10.02%
D.C. Public Library	5000	27	3	33	9	3	0	0	75	5.57%
Health, Education, and Welfare	6000	16	0	37	9	11	2	0	75	5.57%
Agriculture	7000	10	0	29	7	5	1	0	52	3.86%
Other Agencies	8000	74	1	93	58	33	12	0	271	20.12%
Non GS Category	9000	0	0	0	0	0	0	43	43	3.19%
Total		507	78	442	173	81	23	43	1347	100.00%[3]
Percentage of Total		37.64%	5.79%	32.81%	12.84%	6.01%	1.71%	3.19%	100.00%	

[1]In this study, the term "professional librarian" includes all librarians who have received a master's degree in library science, or, before the early 1950's, a bachelor's degree in library science at the graduate level. Therefore, this represents a smaller, more select universe than in the total 1410 series, as reported by the U.S. Civil Service Commission.

[2]The total number of librarians (professional and nonprofessional, GS 9-14) in the Library of Congress is 832. Of these, 218 were eliminated at the initial stage (due to lack of a master's degree) leaving 614.

[3]The percentages in the tables, although showing a total of 100, do not always equal 100 because the figures have been rounded off to the nearest one-tenth of one per cent.

It is further statistically estimated on the basis of these returns that at most 60 professional librarians are missing from the final list of 1347. However, the actual figure is expected to be smaller since the research team logically concluded from returns that came late that a large majority of those libraries that did not send any reply had no professional librarians.

The Sample Design.

It was decided to treat the librarians of the Library of Congress as one separate stratum and all the other Federal librarians as another stratum.[1] These two strata then comprised our whole population. A fifty per cent systematic sample for each stratum was decided upon.

It was found from the pre-testing that the applicable job inventory items were often quite limited for an individual with a narrow specialization, and hence a large sample was necessary, to obtain a valid estimate even for the whole population. Further, it was anticipated that in spite of the care taken to have only those with a graduate degree in library science included in the population, it would nevertheless contain many such librarians without a graduate degree in library science. This in turn would reduce the absolute size of the effective sample. Lastly, it was estimated that the non-response rate would be around fifty per cent. These three considerations prompted such a seemingly large sample.

Sample for Stratum I. -- The Library of Congress. The final list of the 614 librarians from the Library of Congress was listed sectionwise and by grades within a section. A systematic sample of 307 was drawn from this list and was sent back to the Library of Congress for checking. It was found that 147 of these 307 librarians did possess a graduate degree in library science. Thus, these 147 librarians formed our sample from the first stratum.

Sample for Stratum II. -- Federal Libraries Other than the Library of Congress. For the second stratum consisting of all Federal librarians other than those employed at the Library of Congress, the individual cards for each librarian in the population were arranged first by grade level, second by agency or department within each grade, third by geographical location within each agency, and lastly by the number of personnel of the library in each geographical location. This insured the representativeness of the sample. After the cards were arranged in this order a systematic sample of 677 librarians was drawn for Stratum II.

[1]The word "stratum" in this study has been used in the accepted statistical sense, meaning a group and does not convey any type of hierarchical meaning.

The grade distribution of the sample for Stratum II is:

GS 9	257	
GS 10	39	
GS 11	223	
GS 12	87	
GS 13	39	
GS 14	11	
Non GS	21	
	677	Total for Stratum II

Return of Questionnaires.

The questionnaire together with a covering letter and reply-paid envelope was mailed to the library address of each of the 147 librarians in Stratum I and to each of the 677 librarians in Stratum II, a total of 824 mailings. At the end of the fourth week, when only 30 per cent had responded in Stratum II, a letter of reminder was mailed to 473 librarians along with a second copy of the questionnaire. (See Appendix C).

By the cut-off date, 421 of the 824 questionnaires mailed had been returned, or 51.1 per cent. The returned questionnaires were examined for completeness; responses were scrutinized to ascertain if the librarians held the MLS degree and to check the respondents' adherence to instructions. Based on this check it was found that of the 421 returned, 56 were not usable. Thirty-six of these were not usable because, in spite of every effort at prior screening, the individuals did not hold a master's degree in library science and therefore did not fall within the scope of this study. Twenty were not usable because these respondents no longer worked, or because they omitted large sections of the questionnaire. This left 365 questionnaire which met all criteria and could be analyzed. It is interesting to note that the response rate falls about in the middle of the response rates for two prior surveys of Federal employees, which also used a job inventory approach in a questionnaire format.

Other Studies	Per Cent Return
Corson and Paul	54.0
Curnow	43.0

It is worthwhile to examine whether the non-respondents differed from the respondents in regard to any significant variables. One variable to be considered in this connection is grade level. Table 3 outlines respondents in terms of this classification. Only Stratum II is considered since this information for Stratum I was not available to the

research group.

TABLE 3
DISTRIBUTION OF RETURNS BY GRADE LEVEL
IN STRATUM II: 1968

Grade Level	Number in Population	Number of Usable Returns	Percentage of Usable Returns
GS 9	507	91	18.0
GS 10	78	16	20.5
GS 11	442	101	22.8
GS 12	173	43	24.8
GS 13	81	25	30.9
GS 14	23	7	30.4
Non GS[1]	43	9	20.9
Total	1347	292	21.7

There is some indication that the response rate increases with the grade level. However this rate of increase is very small, hence, it can be safely assumed that the representativeness of the sample is not vitiated. Table 4 shows the distribution of returns by department and agency.

TABLE 4
DISTRIBUTION OF RETURNS BY AGENCY IN STRATUM II: 1968

Agency	Number in Population	Number of Usable Returns	Percentage of Usable Returns
Army	235	52	22.1
Navy	114	27	23.7
Air Force	347	51	14.7
Veterans Administration	135	36	26.6
D.C. Public	75	14	18.7
H.E.W.	75	17	22.7
Agriculture	52	15	28.8
Other Agencies	271	71	26.2
Non GS	43	9	20.9
Total	1347	292	21.7

[1]The few respondent who reported they were outside the Civil Service grade classification system were assigned equivalent GS grades.

The variability of percentage of returns between the different departments and agencies is quite small.

The foregoing analysis suggests that in general the final sample is representative of those occupying library positions in grades GS 9 through 14 in Federal libraries.

DESIGN OF THE STUDY, III: THE INTERVIEW

This section presents a description of the procedures and methods used for the interviews with top-level administrative personnel in libraries which constituted the second data gathering instrument of this study.

Objectives.

The objectives of the interviews of top-level administrators are as follows:

(1) To study the attitude of top-level administrators toward post-master's education. This would reflect a level of interpretation different from that of the middle and upper-level librarians concerning needs in the area of continuing professional education;

(2) To identify courses which administrators think are essential for inclusion in a program of continuing education for librarians at the post-master's level. This would supplement the information obtained through the questionnaire from the librarians (GS 9 through 14) themselves;

(3) To determine the skills, competencies and knowledge that the administrators feel can be imparted better on the job than in an university setting.

Rationale.

The rationale for conducting the interviews is the belief that the judgment of both the librarians and supervisory and administrative personnel should be taken into account in building courses at the post-master's level. The implicit assumption is that any plan for training for any job can be best based on the specific combined judgments of those performing the job and the supervisors responsible for the job.

Based on this premise, the reasons for including the interview as part of the research design include:

(1) Realization that the demands as expressed by the librarians themselves (respondents in this study to the questionnaire) might often be restricted or qualified by the attitudes and judgments of their supervisors. It was found in the Stone (Ref. 26) study, for example, that librarians were deterred from taking formal course work when they felt that their supervisors and administrators were opposed to their taking further course work.

(2) The value of knowing how much financial support and time supervisory and administrative personnel are willing to seek for librarians wishing to engage in post-master's education, for, as was expected, the respondents to the questionnaire stressed the necessity of having financial aid if they were to engage in post-master's programs.

(3) Belief that the administrative personnel would be able to give a projection or picture of the future knowledge and skill requirements based on a realistic estimate of the impact of new technology on future facilities, procedures, and library positions and tasks to be performed.

(4) Necessity of learning the supervisor's interpretation of the importance of tasks in which the librarian is lacking or deficient in accomplishing the library's mission.

(5) The importance of knowing whether the supervisors would be more apt to give support to librarians seeking post-master's education through courses given as part of a longer sixth-year program.

In more general terms, it is assumed by the research staff that the overall reason for the initiation of a post-master's program is to better prepare professional librarians for their current and future job requirements.

It is the library, then, that has an important share in the leadership and any success educational planners may have at producing more employable personnel is contingent upon satisfying the personnel needs of the administrators, herein used as respondents, for it is they who make the recommendations of who should be hired. Hence, it was reasoned that many administrators are in key positions to know what libraries need and desire in the way of competencies, knowledge, and skills.

Three groups interested in library continuing education are: (l)library

school personnel, (2) administrative and supervisory personnel of libraries which employ professional librarians, (3) the librarians themselves. Each of these groups would appear to have unique qualifications for being given an opportunity to have a say in designing continuing education beyond the first library professional degree. Today it is recognized that different groups should be represented in educational planning.

Review of Related Literature on the Interview.

The literature reviewed for this section of the study was selected and classified as follows: (1) materials on the collection of data by interviewing, and (2) samples of interview schedules used in other research projects. As both of these categories of materials are included in the Bibliography in the section on interviewing, only the works that were found to be most helpful are mentioned here.

After a review of the literature on the interview as a method of data collection, it was decided by the research staff that the semistructured interview would probably provide the maximum return on the research investment for this study. Of all the materials reviewed on this type of interviewing, the detailed discussion on the semistructured research interview by Argyris proved to be the most helpful.

Argyris not only gives a full sample of a typical interview of this type that he conducted, but he describes basic principles with emphasis on the fact that "questions are tools with which to explore unknown territory." (Ref.2: 43) Particularly applicable to the present study is his belief that one can not only vary the way questions are phrased, but that, depending on the informant, one can also vary somewhat the questions themselves. The type of items to be covered in explaining the research project to each respondent is also dealt with in some depth, as is the administration of the interview. Another factor that he emphasizes is the importance of knowing the biases both of the interviewer and of the interviewee in analyzing the data. Argyris reported that, with upper-level executives, especially those who are quite verbal, he had found the tape recorder most helpful. This was the method of recording the data used in this project. Finally, he presents detailed information on the use and importance of internal validity checks and a chapter on the analysis of the data following its collection through the semistructured interview.

Of the works devoted entirely to interviewing, Interviewing: Its Forms and Functions by Richardson and others (Ref. 20) was found to be the most helpful. The authors make a clear and specific distinction between the schedule interview and the nonschedule standardized interview in which the interviewer is taught exactly what information is required of each respondent, but is allowed to vary the wording and the sequence of

questions for maximal effectiveness with individual respondents. One of the especially helpful features of this work is the criteria set for a good interview. These criteria of satisfactory respondent participation, validity, relevance, specificity, clarity, and completeness of coverage were used to design an evaluation sheet which was filled out on each of the interviews held in connection with the present study. (See Appendix F.)

Cannell and Kahn (Ref. 7) stress the necessity of structuring the interview so as to create an instrument which will serve to translate the research objectives without bias into terms understandable to the respondent and, at the same time, assist rather than retard the interviewer in motivating the respondent to communicate. The specific aspects of interview construction are presented, including frame of reference, information level, language and question sequence. It is emphasized that questions should be phrased so that they contain no suggestions as to the most appropriate response. Another key point made is that the only accurate way to reproduce responses is to record them during the time of the interview, either by taking notes or by some mechanical method.

In conjunction with Alexrod, Cannell (Ref. 6) made another study to determine how respondents react to being interviewed. This is important because it related to the respondent's motivation to communicate accurate responses to the questions being asked. It was found that a major element in achieving favorable reaction to interviews was the pleasure and rapport developed in the relationship with the interviewer, which was sufficient to make even questions on delicate subjects possible.

Turning to models of interviews that were particularly helpful, the first to deserve mention is the study by Arnold (Ref. 3) which includes a complete sample of an interview schedule and one that was very helpful in designing the schedule for this study. Interviews were held with both management respondents and technicians as a basis for developing a core curriculum for technicians in six technologies. Details for the administration of the interview were also included. One special feature of this study was a card sort of a curriculum deck which served as a model for administering the card-sort for the present study.

A related curricular study by Schill and Arnold (Ref. 23) gives helpful details on how to select a management sample to be interviewed concerning lower level technicians. For each technician in the study management interviews were planned so that three levels of supervision for the technicians performing the job were represented. Contrary to the hypothesis with which the study was undertaken, it was found that the curricular views expressed by management respondents were not measurably different from those of the technicians they supervised.

Another detailed description of an interview guide was one by Hall (Ref. 13) which was formulated to use in interviewing library school personnel regarding material taught about job activities in on-going courses in library school. Many of the types of questions asked in this interview schedule were similar to those in the present study. The interview guide was designed to accomplish the following purposes: (1) bring out course content applicable to the list of job activities which had been formulated; (2) identify the level of knowledge, skills, and abilities which are currently being developed in the library school; (3) determine if the educational objectives for library school courses had been identified specifically. The format of the interview guide, which is presented in full, is particularly helpful, as also are the 36 questions listed each with a brief note of explanation. Details are given on the methodology for recording the data.

Several other interview guides also proved helpful in building the schedule and suggesting ways of recording data: one of these was on the discovery and dissemination of scientific information among psychologists as published by the American Psychological Association (Ref. 1); another was the University of Wisconsin's guide for a library materials project (Ref. 16). Still another was the interview guide developed by Bunge (Ref. 5) for a study of professional education and reference efficiency.

Although none of these guides developed by others were on a subject directly related to the subject of this study, all were helpful in suggesting methodology.

General Methodology.

Prior to describing and discussing the separate techniques and procedures, a general outline of the interview design may be of value to the reader. A detailed procedural description follows within this section.

Respondents were selected from among top-level administrators of Federal libraries. Each interviewee was asked to respond to the queries in terms of a particular type of library position; they were not asked to in any way evaluate the employees who perform these jobs for them.

A card-sorting procedure was completed by each respondent at the close of each interview. Via the card sort, respondents identified courses which they considered to be most essential for development as a part of a post-master's sixth-year program based on the type of library position under discussion. Each interviewee also answered a group of specific

questions concerning his reactions to the need for and the scope of a post-master's program.

Administering the Interview.

Each of the administrative librarians to be interviewed was briefed by telephone to explain the purpose of the interview and the nature of the study. The data collection interviews were scheduled at a time and place where it would be possible to hold the interview without interruption. If there was no place suitable at the supervisor's office, or if preferred by the interviewee, the interview was conducted in the Project Director's office at Catholic University. Before starting the interview, each respondent was asked if he would object to the use of the tape recorder during the interview, and as none objected, it was used in all the interviews.

The length of the interviews averaged one-and-one-half hours. Except in one instance (the one interview held outside the D.C. area) the interviews were conducted by at least two members of the research staff. Those conducting the interviews were the Project Director, the Associate Director, and the project's Statistician.

Interview Format.

The semi-structured research interview format was used as it was deemed best suited to this study. The basic items about which questions would be asked were determined after the analysis of data from the questionnaire had been made. That analysis provided an indication of where additional data was necessary in order to give a more comprehensive and precise view of the total problem. A card sort and a one-page check-list were also used in connection with the interview.

Scope of the Interview. The interview opened with a five to ten-minute orientation on the research project which included the following items:

(1) Objectives of the research;

(2) Why the research is being conducted;

(3) An overview of what has been accomplished in the project to date;

(4) An explanation of the role of the supervisory or administrative respondent;

(5) An explanation of how the results will be reported, and assurance

that the name of the interviewee will not be used in the report;

(6) A statement on the nature of the questions that will be asked.

Following the opening remarks of explanation, respondents were asked for replies to interview items listed in Appendix F.

The interview portion of the contact with the administrative respondents varied because of the conversation involved, but usually about forty minutes were used for covering the following areas: additional competencies needed for the position about which respondent was being interviewed; the best method of attaining these competencies; availability of funds and time for participating in a continuing education program; the comparative merits of the institute format in relation to the course format; the attitude toward post-master's programs in general; an estimation of the effect of automation on jobs and the implications of this for educational planning; and, finally, the administrator's opinion of the importance of personal characteristics in the job situation.

Between fifteen and twenty minutes time was then taken for the card-sorting procedure. In the last five minutes of the interview, the respondent filled out a one-page sheet asking for reactions to the concept of a post-master's program. (See Appendix G.)

The Card Sort. One means through which data was acquired by the research team was the card-sorting procedure. All the supervisory personnel were asked to sort the seventy-eight-card curriculum deck (which listed the same courses as had been used in the questionnaire to the librarians) into three stacks: courses judged to be most essential for performance of the library position in question; courses judged to be useful but not essential for performance of the position; and courses judged to be unnecessary for the performance of the job in question. Further, the supervisory personnel were asked to rank those cards in Group 1 ("Should Have This Course") in order, with the one they thought most essential on top, the second next, etc. Finally, the supervisory personnel were asked to toss the cards in Group 3 ("Don't Really Need This Course") into two stacks: (a) one which they felt was not at all needed for the position being discussed, and (b) one which they felt was perhaps necessary, but could be better obtained through on-the-job training than through formal courses. Directions for the card sort as used by the interviewee during the sort are found in Appendix H.

No restrictions were placed on the number of cards to be assigned to any given category. Upon completing the task, respondents were asked to review their selections.

Following each interview, the results of the card sort were entered on a tally sheet (Appendix H): a form evaluating the over-all coverage of the interview (Appendix I) was filled out; and eight summary charts concerning data covered were checked.

Identifying the Universe and the Sample.

The universe for the administrative and supervisory personnel for the study consisted of Federal librarians GS 15 and above. They were administrative and supervisory personnel who were from one to three steps of authority above the level of professional librarians in this study, and were responsible for work for the particular type of library position about which the interview was conducted. (See Figure I.)

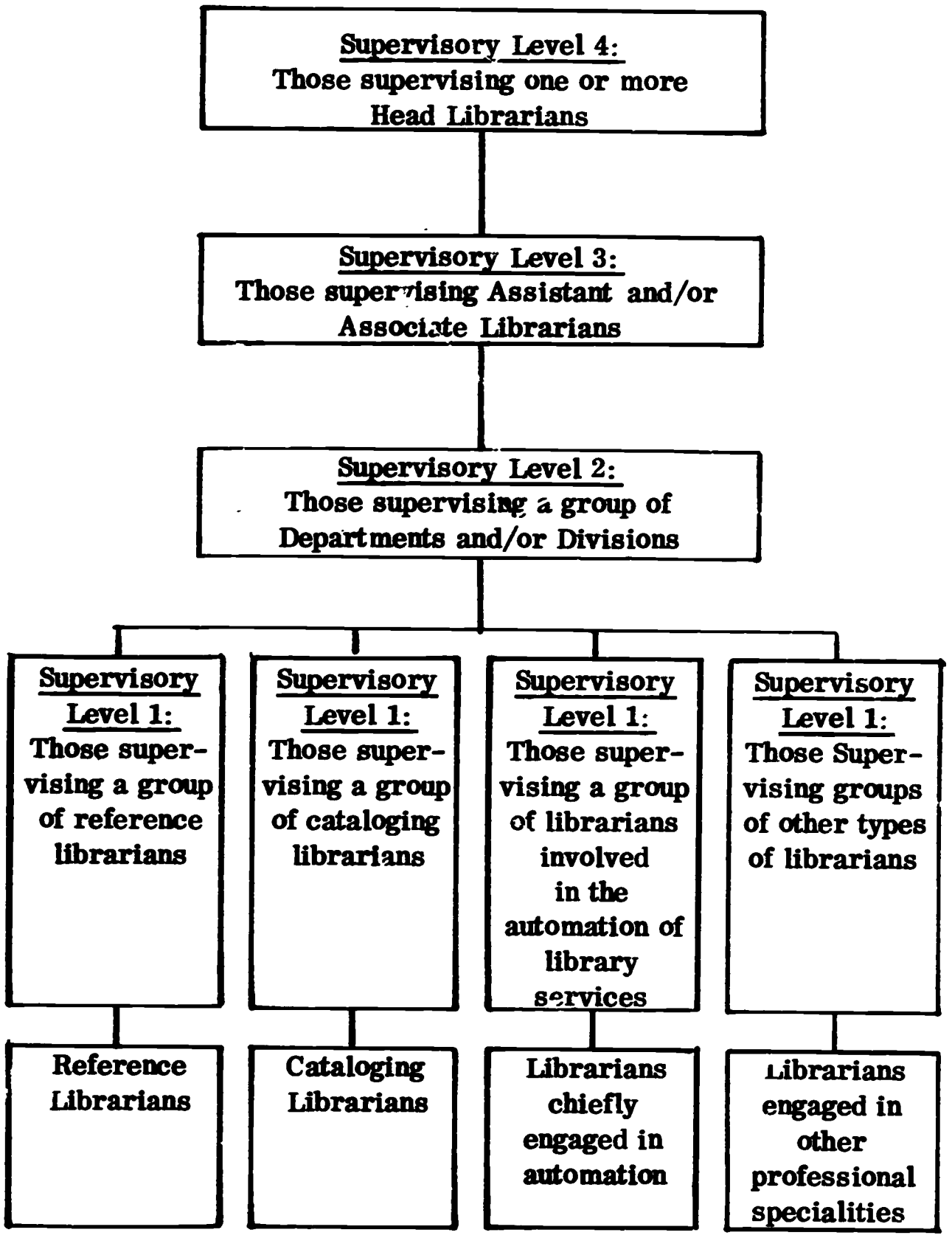
The method used to obtain a sample from this universe was quota sampling based on a proportionate number of administrators for each main category of positions represented in the responses received from the practicing librarians. Table 5 gives the number of administrators interviewed for each type of position.

TABLE 5
NUMBER OF TOP-LEVEL ADMINISTRATORS INTERVIEWED FOR MAJOR TYPES OF JOBS HELD BY FEDERAL LIBRARIAN RESPONDENTS: 1969

Type of Position for which the Administrator Responded in Interview	Number of Top-Level Administrators Interviewed
ADMINISTRATIVE POSITIONS	
Head of library	5
Assistant Head of Library	1
Head of Department or Division	4
Head of Branch Library	2
NON-ADMINISTRATIVE POSITIONS	
Cataloger	3
Reference	3
Automation	1
Other/Non-Administrative:	
Readers' Services	1
	20

FIGURE 1
LEVELS OF SUPERVISION IN FEDERAL LIBRARIES FROM WHICH REPRESENTATIVE ADMINISTRATORS WERE SELECTED TO BE INTERVIEWED:1969

LEVELS OF SUPERVISION



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CHAPTER III

RESEARCH FINDINGS: BACKGROUND INFORMATION ABOUT FEDERAL LIBRARIANS

The request for background information was put in Part III in the questionnaire. However, when the analysis of the data was made, it became obvious that the reporting of the data gathered about the respondents should come early in this report as the material in later chapters would be more meaningful once the reader was aware of these characteristics.

Within this chapter the information about the Federal librarian respondents is grouped under four headings: (1) personal and job-related variables; (2) educational variables; (3) characteristics of Federal librarians compared with those of other types of librarians; and (4) summary and implications.

Personal and job-related variables include: grade level of respondents, type of position, geographical distribution, sex ratio, age distribution, professional experience, years with the Federal government, job mobility, absence from library work for six months or more, experience in occupations other than librarianship, relationship of position level to type of job activity, years in present position, number of employees supervised, location of library in agency (e.g., headquarters or field), number of people employed in library, estimated minimum experience required for present job, hours spent on avoidable details, and utilization of talents.

Educational variables include: library degrees and undergraduate major, area of concentration of non-library graduate degrees.

The remainder of the chapter contains characteristics of Federal librarians compared with those of other types of librarians and presents a summary profile of the background characteristics of the Federal library respondents.

PERSONAL AND JOB-RELATED VARIABLES

At the outset of this discussion of background characteristics, it is necessary to discuss the grade level of the respondents and the two categories into which positions were divided. This is of importance because the manner in which these categories were constituted is reflected in nearly all of the tables that are presented in this study.

Grade Level of Respondents.

The statistical analysis for this project started with an examination of the grade structure of the 365 respondents. It has already been mentioned that the 9 respondents who belonged to non-GS categories were assigned equivalent GS grades. It was noticed that certain grades had too few respondents, and there was no justification for making these grades a separate category for the analysis of the data. Hence the grades were combined into three groups, and throughout the study these groups were adhered to. Table 6 gives the grade level of Federal librarians and the manner in which they were combined into three groups.

TABLE 6
GRADE LEVELS OF FEDERAL LIBRARIANS AND THE MANNER IN WHICH THEY WERE COMBINED FOR PURPOSES OF ANALYSIS: 1968

GS Level	Number of Respondents	Per Cent	Combined Grouping for Analysis	Number of Respondents	Per Cent
GS 9	115	31.51	GS 9	115	31.51
GS 10	16	4.38	GS 10, 11	140	38.36
GS 11	124	33.97			
GS 12	60	16.44			
GS 13	40	10.96	GS 12, 13, 14	110	30.14
GS 14	10	2.74			
Total	365	100.00		365	100.00

Type of Position Held by Respondents.

A major decision early in the study related to the manner in which respondents should be grouped for analysis regarding type of position. It was decided that only two major categories of positions, namely administrators and non-administrators would be used throughout the study. However, when the questionnaire was formulated it was pointed out that the distinction between the administrator and non-administrator was not very clear in a small library, and the decision could be arbitrary if it was left to the librarian in such a library.

So it was decided that librarians working in one-to-three person libraries would report only the fact of working in such a library, and the research team would assign them to one of these two categories -- administrative or non-administrative -- on the basis of the following factors: official title of position; GS-1410 Series titles; GS grade level; location of present position; number of employees supervised; number of employees in library with a grade of GS 9 or higher; total number in the library system; and the kind of job activity items checked in Part I of the questionnaire.

The same problem arose for librarians who are supervisors. In these cases, too, arbitrariness was avoided and uniformity insured by asking them to report only this fact, and the research team assigned them to the two categories, namely administrative and non-administrative on the basis of the factors mentioned above. Further, it may be pointed out that the number of people in the two groups (39 and 47 respectively) was not sufficient to treat them as separate categories for statistical analysis.

Thus there were four groups in the questionnaire for reporting the type of position: (1) administrators; (2) supervisors; (3) persons working in one-to-three man libraries; and (4) persons working in a professional speciality. Obviously group one was to be assigned to the administrators and group four to the non-administrators; and groups two and three were to be treated in the manner mentioned above. (Table 7)

The Geographical Distribution of the Respondents.

By far the heaviest concentration of respondents was, as expected,in the District of Columbia with a total representation of 43.0 per cent, which was almost equally divided between Stratum I (Library of Congress) and Stratum II (other Federal agencies). In addition, there was representation from 37 states, with California, Maryland, Colorado and New York leading. APO (Army Post Office) addresses were given for the 7.4 per cent of the responding librarians stationed overseas. The statewide distribution of respondents is presented in Appendix Table I.

Sex Ratio.

In the present study 73.4 per cent of the respondents were women. The data presented in Table 8, column 3, which shows the relation of grade level to sex would seem to warrant the conclusion that generally the higher the grade, the higher the percentage of men holding these Federal library positions. Thus, 85.7 per cent of the administrators at GS 9 are women; and 82.3 per cent of the GS 10 and 11 administrators are women; but at the GS 12-14 level, the percentage of women has dropped to 53.4 per cent. A similar pattern is noted among the non-administrators: at

TABLE 7
FREQUENCY OF ADMINISTRATORS AND NON-ADMINISTRATORS
BY GRADE LEVEL: 1968

Type of Position and GS Grade Level	Number	Percentage in Stratum	Percentage of Total (N=365)
Stratum I (N=73)			
LIBRARY OF CONGRESS			
Administrators			
GS 9	0	0.00	0.00
GS 10, 11	0	0.00	0.00
GS 12-14	14	19.18	3.84
Subtotal	14	19.18	3.84
Non-Administrators			
GS 9	21	28.77	5.75
GS 10, 11	21	28.77	5.75
GS 12-14	17	23.29	4.66
Subtotal	59	80.83	16.16
TOTAL	73	100.00	20.00
Stratum II (N=292)			
OTHER AGENCIES			
Administrators			
GS 9	63	21.58	17.26
GS 10, 11	79	27.05	21.64
GS 12-14	74	25.34	20.27
Subtotal	216	73.97	59.17
Non-Administrators			
GS 9	31	10.62	8.49
GS 10, 11	40	13.70	10.96
GS 12-14	5	1.71	1.37
Subtotal	76	26.03	20.82
TOTAL	292	100.00	79.99
Total (N=365)			
ALL TOGETHER			
Administrators			
GS 9	63		17.26
GS 10, 11	79		21.64
GS 12-14	88		24.11
Subtotal	230		63.01
Non-Administrators			
GS 9	52		14.25
GS 10, 11	61		16.71
GS 12-14	22		6.03
Subtotal	135		36.99
TOTAL	365		100.00

TABLE 8

DESCRIPTIVE STATISTICS FOR THE RESPONDENTS IN ADMINISTRATIVE AND NON-ADMINISTRATIVE POSITIONS BY GRADE LEVEL AND STRATUM: 1968

Type of Position and GS Grade Level	Total Number in Group	Sex Ratio (No. of females per 100 respondents)	Average Age	Average Number of Professional[1] Years[2]	Average Number of Years Elapsed[1] since MLS[2]
		STRATUM I			
Library of Congress					
Administrators					
GS 9	0	--	--	--	--
GS 10, 11	0	--	--	--	--
GS 12-14	14	64.29	43.00	15.75	14.54
Sub-group	14	64.29	43.00	15.75	14.54
Non-Administrators					
GS 9	21	71.43	32.62	1.20	.60
GS 10, 11	21	61.90	34.71	5.72	5.05
GS 12-14	17	52.94	42.00	11.72	10.81
Sub-group	59	62.71	36.07	5.84	5.11
TOTAL Stratum I	73	63.01	37.40	7.74	6.74
		STRATUM II			
Other Agencies					
Administrators					
GS 9	63	85.71	45.10	13.60	13.65
GS 10, 11	79	82.28	47.09	17.99	18.69
GS 12-14	74	51.35	48.88	19.35	18.71
Sub-group	216	72.69	47.12	17.04	17.08
Non-Administrators					
GS 9	31	93.55	39.97	8.46	9.03
GS 10, 11	40	80.00	44.75	12.20	12.46
GS 12-14	5	80.00	53.20	23.00	23.20
Sub-group	76	85.53	43.36	11.41	11.74
TOTAL Stratum II	292	76.03	46.14	15.58	15.69

Table 8 Page 2

Descriptive Statistics for the Respondents in Administrative and Non-Administrative Positions by Grade Level and Stratum: 1968

Type of Position and GS Grade Level	Total Number in Group	Sex Ratio (No. of females per 100 respondents)	Average Age	Average Number of Professional[1] Years[2]	Average Number of Years Elapsed[1] since MLS[2]
		ALL TOGETHER			
Administrators					
GS 9	63	85.71	45.10	13.60	13.65
GS 10,11	79	82.28	47.09	17.99	18.69
GS 12-14	88	53.41	47.94	18.76	18.09
Sub-group	230	72.17	46.87	16.96	16.94
Non-Administrators					
GS 9	52	84.62	37.00	5.47	5.73
GS 10,11	61	73.77	41.30	9.93	9.78
GS 12-14	22	59.09	44.55	14.28	13.76
Sub-group	135	75.56	40.17	8.94	8.83
TOTAL	365	73.42	44.39	13.99	13.91

[1]These two averages are expected to be very close because of their definitions as stated in the questionnaire. The purpose of including both was to check the reliability of the data collected.

[2]Divisors used in obtaining the above percentages are widely varied as they correspond to the numbers of respondents answering each question rather than the totals of each respondent grouping. These divisors are given in Table 32.

the GS 9 level, 84.6 per cent are women; at the GS 10 and 11 level, 73.8 per cent are women; while at the GS 12-14 level, only 59.1 per cent are women.

However, a closer examination of the table reveals that the above mentioned differentials are due to two different reasons. For the administrators the drop in figures is due to a severe drop in Stratum II (agencies other than the Library of Congress), while the drop in non-administrators is accounted for by the drop in sex ratio in non-administrators in Stratum I.

Of the 91 head librarians represented in this study, who are distributed almost equally in grades GS 9, GS 10,11 and GS 12-14 (Table 9), 72.5 per cent are women. This is almost the identical ratio of women that obtains for all the respondents - 73.4 per cent.

In contrasting the sex ratio in librarianship with other professions, Schiller (Ref. 9) points out that when all professional and technical occupations are taken together, the ratio of women to men is almost exactly reversed from the ratio found in librarianship. Figures released in 1966 showed that 38 per cent of all positions in professional and technical occupations were held by women. The comparison of sex ratio between academic librarians and faculty is striking: 64 per cent of women as compared to only 20 per cent, and a recent study shows that women constitute only 10 per cent of all faculty in selected leading universities. It has also been found that women have only a small representation among scientists (8 per cent), lawyers (3 per cent), and engineers (1 per cent).

Age Distribution.

The mean age is 44.4 (Table 8, column 4 for all respondents. As might be expected, the average age of the administrators is higher than that of the non-administrators: 46.9 as compared with 40.2. The single group with the highest average age was the non-administrators in Stratum II (libraries other than the Library of Congress) --GS 12-14 group with a mean age of 53.2. The single group with the lowest average age was the GS 9 non-administrator at the Library of Congress.

The mean age for the women was 45.0 years as compared to 43.1 for the men. It should be noted in this connection that it is possible that the mean age of Federal women librarians in this sample may actually be somewhat higher than the 45.0 listed, as 24 women did not fill in their age, and search of Who's Who in Library Service and other directories did not reveal these missing ages. Only six of the men did not reveal their age.

TABLE 9

FREQUENCY DISTRIBUTION OF TYPES OF LIBRARY ACTIVITIES IN WHICH THE RESPONDENTS ARE PRIMARILY ENGAGED BY GRADE LEVEL:1968

Type of Position	Grade Level			All Respondents	
	9	10,11	12-14	No. (N=365)	%
Administrators					
Head of Library	28	33	30	91	24.93
Assistant or Associate Head	11	5	9	25	6.85
Head of Department or Division	11	21	34	66	18.08
Head of Branch	4	6	4	14	3.84
Head of Regional or Field Library	8	10	4	22	6.03
Head of Library System	1	4	7	12	3.29
Non-Administrators					
Abstracting	0	0	0	0	0.00
Acquisitions	2	1	0	3	.82
Analyzing Source Materials	0	0	0	0	0.00
Archives	0	0	0	0	0.00
Bibliography	2	10	1	13	3.56
Cataloging	19	17	7	43	11.78
Circulation	0	0	0	0	0.00
Classification	1	2	3	6	1.64
Clientele Services	0	1	0	1	.27
Coordinator	0	3	2	5	1.37
Data Processing	0	1	1	2	.55
Documents and/or Reports	2	1	0	3	.82
Editing and/or Writing	0	0	1	1	.27
Indexing	1	1	0	2	.55
Information Retrieval	0	0	0	0	0.00
Literature Searching	0	1	0	1	.27
Non-Print Materials	0	0	0	0	0.00
Personnel	0	1	0	1	.27
Public Relations	0	0	0	0	0.00
Reference	17	17	4	38	10.41
Research	0	0	0	0	0.00
Revision	0	1	0	1	.27
Selection of Materials	0	0	0	0	0.00
Serials	1	0	0	1	.27
Subject Speciality	2	1	0	3	.82
Systems Analysis	1	1	2	4	1.10
Technical Services	1	1	1	3	.82
Terminology Control	0	0	0	0	0.00
Translation	0	0	0	0	0.00
Other	3	1	0	4	1.10
TOTAL	115	140	110	365	100.00

Professional Experience.

The mean number of years of professional experience for the 365 Federal librarians in the study is 14.0 as indicated in Table 8 which shows the mean number of years of professional experience by grade and by type of library position for all of the 365 respondents.

One statistical figure to which special attention should be called is the mean of 13.6 years for the GS 9 administrators. This seems quite high, especially in view of the new civil service ruling, adopted in the fall of 1968, which places a new MLS degree graduate in the same grade with persons of more than 13 years of experience. It is also significant to note that the average number of years of professional experience for the administrator is 17.0 as compared to an average number of years of professional experience of 8.9 years for the non-administrator.

Years in Present Position. The average number of years that the respondents have held their present positions is 4.9. Gradewise, the GS 9 respondents have an average of 3.0 years in their present positions, which is 2.5 years less than those in GS 10-14 positions. Also, the administrators with 5.9 years have averaged 2.5 more years in their present positions than have the non-administrators. (Appendix Table II)

The greatest variations in number of years in present position is found when the respondents are divided according to agency. Those employed in the Veterans Administration, the D.C. Public Library, and the Navy have averaged the highest number of years in their present position: 10.6, 7.9, and 6.4 years respectively. The lowest average, regardless of how the respondents are categorized, is held by those employed at the Library of Congress -- 2.0 years.

When divided by sex, it is found that the women have been in their present positions 1.6 years more than the men -- 5.4 years as compared to 3.8.

Years with the Federal Government. The average number of years that the respondents have worked for the Federal government is 11.0. The women average 2.8 years more with the Federal government than do the men -- 11.7 years as compared to 8.9.

The GS 9 respondents have worked an average of 7.1 years for the Federal government, which is 5.2 less years than those in GS 10, 11 with an average of 12.3. Between the GS 10,11 and GS 12-14, there is only a difference of 1.2 years -- 12.26 as compared to 13.53. The administrators have an average of 5.8 years more than do the non-administrators -- 13.0 years as compared to 7.3 (Appendix Table II)

The greatest variations appear when the respondents are divided by agency. The three agencies in which respondents have the greatest average number of years with the Federal government are the Veterans Administration, the Navy and the Army: 16.7, 15.0 and 13.9 respectively. The Library of Congress has the lowest average in this respect. 5.9 years.

Job Mobility. Counting their present position, the respondents on an average have worked in two other libraries in the Federal government and an average of 1.4 libraries outside the Federal government. Overall, the respondents have worked in an average of 3.4 libraries. (Appendix Table II)

One might expect that the higher grades would have moved considerably more than the lower ones, but they are very nearly the same with the combined average for the GS 12-14 of 3.7 as compared to 3.3 for grades 9 through 11. Basically, there is very little difference for the different grades regarding the number of libraries worked in.

There is a slightly greater difference between the administrator and the non-administrator. The administrator has worked in an average of 1.6 more libraries (taking both inside and outside the Federal government together) than the non-administrator: 4.0 as compared to 2.4 libraries for the non-administrator.

Of the respondents, 37.8 per cent have worked in no other library than the one in which they are now employed; 27.1 per cent have worked in one library outside the Federal government; and 19.0 per cent have worked in three outside libraries.

Those who Have Left Library Work for Six Months or More.

In the present study, 21.4 per cent of the Federal library respondents state that they had left library work for six months or more at some point after they had begun professional employment. (Appendix Table III)

Proportionately more of the administrators had left than the non-administrators (25.2 per cent compared with 14.8 per cent). Gradewise, the GS 10, 11 respondents had the highest percentage who had left -- 24.3 per cent.

The most frequent reason for leaving was for marriage or family reasons (28 respondents, or 35.9 per cent of the 78 who had left gave this as their reason). The other major reason for leaving was to obtain more education (20 respondents or 25.6 per cent of those who left cited this as their reason). It is interesting to note that only 14 (18.0 per cent of 78) had

left for another occupation and then returned. These statistics, of course, give no indication of those who have left and not returned to Federal librarianship, as the present study only included those who are currently employed in Federal libraries.

Experience in Occupations other than Librarianship.

The findings indicate that nearly half of all the respondents (46.6 per cent) had come to Federal librarianship by way of experience at a professional, technical or administrative level in other fields. Experience in teaching predominated and accounted for over half (52.4 per cent) of the respondents who listed an occupational experience prior to librarianship. The second largest category is writing, editing and journalism, but this group is quite small in comparison to the teachers -- only 10.6 per cent of those reporting prior occupations.

Analysis by Grade Level. The complete breakdown of the respondents who reported a first prior occupation is given in Appendix Table IV by grade level.

GS 9	52.2 per cent reported a first prior occupation
GS 10,11	41.4 per cent reported a first prior occupation
GS 12-14	47.3 per cent reported a first prior occupation

It was also found that 11.5 per cent of the respondents had a second prior occupation at a professional, technical or administrative level. Of the 42 respondents reporting a second prior occupation; 23.8 per cent had this second occupation in teaching, while 76.2 per cent had experience in a variety of 12 other occupations. (Appendix Table IV) The different grades show very little variation as regards a second prior occupation.

Analysis by Type of Position. The breakdown of respondents reporting prior occupations by type of position is shown in Appendix Table IV. There was no significant difference between the percentages of administrators and non-administrators regarding prior occupation. Of the administrators reporting a prior occupation, 57.7 per cent were teachers, while only 42.4 per cent of the non-administrators had been teachers.

Out of 89 respondents having teaching as the first prior occupation, 64 were administrators (71.9 per cent) while out of 81 respondents having other occupations as the first prior experience, 47 were administrators (58.0). Thus, there would seem to be a slight

indication that librarians with teaching experience were more apt to become administrators than those whose experience was in other occupations.

Data from Related Studies. These statistics reinforce the findings of previous studies, including the 1968 survey by Schiller (Ref. 9) which have shown that librarianship is often a second occupational choice. It is difficult to evaluate the importance of this experience factor at this stage of the study, because the data will be more meaningful when related by further study to the length of time the respondents spent in those other occupations based on the gap in time between their BA and MLS degrees.

Schiller found in her study of academic librarians that more than half of all the respondents have non-library experience at a professional, technical, or administrative level. In her study, education was also found to predominate overwhelmingly (855 individuals out of 1176 who reported a prior occupation). (Ref. 9:24) Morrison(1961) (Ref. 7) found that over half of his respondents had had experience in other occupations. Commenting on this situation, Schiller states: (Ref. 9:24)

> The fact that a large proportion of librarians do not elect librarianship as a first occupational choice reflects very seriously upon the profession itself, and on its reputation as a challenging and rewarding career. Why this occurs is a crucial question which requires further examination. For the moment, however, we can simply note that late career decisions have an important bearing on the relatively high age levels among librarians.

It would seem that this condition would have important implications for recruitment for post-MLS and doctoral programs, but it is not possible to estimate the precise nature of these implications.

Relationship of Position Level to Type of Job Activity.

One-fourth (24.9 per cent) of the Federal library respondents in the study reported that they are heads of libraries (Table 9). One factor contributing to this high percentage is the fact that so many of the Federal libraries are small in size. For example, of the 91 heads of libraries in the study, 14 are heads of one-to-three man libraries. This fact partially explains why 67.0 per cent of the head librarians in the study are grade GS 11 or less.[1] The highest concentration

[1]Another possible reason for the generally low grade level of head librarians is discussed in the section on "Hours Spent on Avoidable Details".

The second largest category (18.1 per cent of the respondents are those holding positions as heads of departments or divisions. By contrast with the head librarians, here the heaviest concentration is in GS 12-14 with 56.7 per cent of these respondents in this grade level as compared to the 43.3 per cent found in the GS 9-11 groups combined. This seems to indicate that in libraries large enough to have department and division heads the grade level tends to be higher than for head librarians in smaller libraries.

The third largest concentration is in the area of cataloging which accounts for 11.8 per cent of the total. Among the catalogers, 83.7 per cent of the respondents fall in grades 9 and 10, 11; with almost equal numbers in both groups. The only other sizeable concentration by type of activity is that of the reference librarians who comprise 10.4 per cent of the total number of respondents. Of the reference librarians, 89.4 per cent are found in the GS 9 and the GS 10, 11 categories, with the same number falling within each of these groups. Only eleven catalogers and reference librarians come within the GS 12-14 bracket, and of these, all but three are employed at the Library of Congress. These statistics point up a condition which was reported by the respondents in the open-end questions, namely that in order to advance in the civil service grade structure as a librarian, one usually has to be engaged in administrative activities.

It is interesting to note, in view of the demand expressed for courses in automation later in this report, that only two of the 365 respondents list data processing as their primary activity. One is in the GS 7, 9 category; one in the GS 12-14 group. There are four respondents who list systems analysis as their primary activity: one is a GS 9, one is in the GS 10, 11 category, and two are in the GS 12-14 group.

As both Hemphill (Ref. 6) and Curnow (Ref. 3) had found that not much precise information can be inferred as to similarity of work performed by position titles alone, the respondent was asked for the official title of his position and his civil service category, as well as to indicate the kind of library activity in which he was primarily engaged. It was found that the official title of position and the primary type of activity tend to run parallel with one another, but the civil service category is not useful in determining type of activity, as it is too broad. (The official title of position is a fairly good indicator of primary responsibility, except for the title of "librarian".)

Grouped by the broad civil service categories, the distribution of the respondents is as follows:

Librarian.....	161 respondents..	44.1%

Administrative Librarian...	120 respondents	32.88%
Supervisory Librarian	64 respondents	17.53%
Library Director	14 respondents	3.84%
Other	6 respondents	1.64%

Number of Employees Supervised.

Analysis of the data showed the following findings relative to number of people supervised:

Few of the respondents supervised large numbers of people: 30.0 per cent reported that they supervise no one; 31.1 per cent supervise more than 5; 8.1 per cent supervise 20 or more; and 1.7 per cent supervise 50 or more. The over-all mean is 6.4 people. (Table 10)

Sex Ratio. -- The men are somewhat more likely to supervise larger staffs: 30.3 per cent of the men as opposed to 15.3 per cent of the women supervise more than 10 people. The mean number of employees supervised by the men is 9.0 as compared with a mean of 5.5 supervised by the women. However, 29.8 per cent of the women (compared to 31.5 per cent of the men) supervise no one.

By Type of Position and Grade Level. The average number of employees supervised for the administrators, who constitute 63.0 per cent of the respondents, is 9.7, while the mean for the non-administrators is 0.9. The mean number of employees supervised varies from a high of 16.1 for administrator respondents in the GS 10-14 category, to 0.5 for the GS 9 non-administrators. Of the administrators, 30.8 per cent, as compared with 0.0 per cent of the non-administrators, supervise more than 9 people.

By Location in Agency. The average number of employees supervised by administrators is higher at the headquarters libraries than at the regional or field offices (12.1 as compared to 7.3), but this relationship does not exist when the mean is computed for the whole sample, including the non-administrators. Then the number supervised is slightly higher in the field and regional offices than in the headquarters libraries. (Table 11)

Location of Library in Agency.

The chief characteristic to be noted about the location of the libraries where the respondents are employed is that 52 per cent of the respondents work in an agency headquarters library, as compared with 36.3 per cent who work in regional or field offices. However, it should also be noted that there is a substantially greater number of non-administrators

TABLE 10
NUMBER OF EMPLOYEES SUPERVISED BY THE RESPONDENTS
BY TYPE OF POSITION AND SEX:1968

Number of People Supervised	Type of Position				Sex				Total	
	Administrative		Non-Administrative		Males		Females			
	No. (N=214)	%	No. (N=130)	%	No. (N=89)	%	No. (N=255)	%	No. (N=344)	%
0	17	7.94	87	66.92	28	31.46	76	29.80	104	30.23
1 - 2	38	17.76	21	16.15	10	11.24	49	19.21	59	17.15
3 - 5	55	25.70	19	14.62	15	16.85	59	23.14	74	21.51
6 - 9	38	17.76	3	2.31	9	10.11	32	12.55	41	11.92
10 - 19	38	17.76	0	0.00	17	19.10	21	8.24	38	11.05
20 - 49	22	10.28	0	0.00	7	7.87	15	5.88	22	6.40
50 and over	6	2.80	0	0.00	3	3.37	3	1.18	6	1.74
Total	214	100.00	130	100.00	89	100.00	255	100.00	344	100.00
Mean	9.7		0.9		9.0		5.5		6.4	

TABLE 11
STATISTICS RELATING TO POSITION LOCATION WITHIN AGENCIES OF RESPONDENTS AND AVERAGE NUMBER OF EMPLOYEES SUPERVISED BY TYPE OF POSITION AND GRADE LEVEL: 1968

Type of Position and Grade Level	Location Within Agencies								TOTAL	
	Headquarters		Regional or Field		Branch or Post		Other			
	Number of Respondents	Average Number Supervised	Number of Respondents	Average Number Supervised	Number of Respondents	Average Number Supervised	Number of Respondents	Average Number Supervised	Number of Respondents	Average Number Supervised
Administrators										
GS 9	6	5.3	46	3.1	7	4.6	3	3.0	62	3.5
GS 10,11	21	6.7	39	6.1	6	6.0	4	31.0	70	7.7
GS 12-14	43	15.7	30	15.2	3	3.7	6	28.5	82	16.1
Subtotal	70	12.1	115	7.3	16	4.9	13	23.4	214	9.7
Non-Administrators										
GS 9	39	0.4	6	0.3	4	1.5	1	0.0	50	0.5
GS 10,11	50	0.8	4	3.0	2	1.5	4	3.0	60	1.2
GS 12-14	20	1.4	0	--	0	--	0	--	20	1.4
Subtotal	109	0.8	10	1.4	6	1.5	5	2.4	130	0.9
TOTAL	179	5.2	125	6.8	22	4.0	18	17.6	344	6.4

who work at agency headquarters, 83.7 per cent, as compared to administrators, 32.7 per cent. (Table 11)

Number of People Employed in Libraries.

As reported by the respondents in Stratum II, the average number of people employed in the libraries in which they work is 36.7. It is estimated by the respondents that 14.4 per cent of these employees are GS 9 or higher. The respondents have estimated that a mean of 169 persons work in the library system of which their library is a part.

Variables Related to the Work and the Place of Work.

Estimated Minimum Experience Required for Present Job. (Part III of Questionnaire, Item 32, Page 10). The respondents were asked to estimate the minimum experience in libraries and information centers required to perform their present jobs. The results are set forth by type of library activity in Appendix Table V.

In all the job activities which contained the larger number of respondents, there was considerable difference in judgments with respect to the minimum experience needed. The estimates varied from no experience to more than 7 years. The same number of respondents (32) thought no experience was required for their jobs as the number who thought "over 7 years" was necessary. The highest concentration of those stating no experience is necessary is from the catalogers. Two heads of libraries and two assistant heads thought no experience was necessary, as did three reference librarians. At the other end of the scale, 10 heads of departments or divisions, and 9 heads of libraries thought over 7 years of experience was necessary.

It should be noted that only 5.3 per cent of the non-administrators answering this question (114) thought more than 5 years was necessary to perform their jobs. On the other hand, 24.0 per cent of the administrators answering this question (192) estimated that more than 5 years experience was necessary to perform their jobs.

Hours Spent on Avoidable Details. (Part III of the Questionnaire, Item 34, Page 10). -- Of the 321 respondents answering this question, 90.3 per cent report spending from 1 to 38 hours per week on avoidable detial work that they feel should not be a part of their jobs. Only 9.7 per cent of those answering this question report "no time" spent in this mannger. This is in marked contrast to the 16.5 per cent of the

TABLE 12

DISTRIBUTION, BY TYPE OF POSITION AND GRADE LEVEL, OF HOURS PER WEEK SPENT ON AVOIDABLE DETAILS BY THE RESPONDENTS:1968[1]

Number of Hours	Administrators								Non-Administrators								Total	
	GS 9		GS 10,11		GS 12-14		All		GS 9		GS 10,11		GS 12-14		All			
	No. (N=63)	%	No. (N=79)	%	No. (N=88)	%	No. (N=230)	%	No. (N=52)	%	No. (N=61)	%	No. (N=22)	%	No. (N=135)	%	No. (N=365)	%
None	4	7.55	3	4.41	9	11.11	16	7.92	7	16.67	3	5.17	5	26.32	15	12.61	31	9.66
1- 5	9	16.98	22	32.35	26	32.10	57	28.22	13	30.95	25	43.11	6	31.58	44	36.97	101	31.46
6-10	14	26.42	25	36.77	29	35.80	68	33.66	12	28.57	16	27.59	5	26.32	33	27.73	101	31.46
11-15	5	9.43	7	10.29	9	11.11	21	10.40	5	11.91	8	13.79	1	5.26	14	11.77	35	10.90
16-20	14	26.42	9	13.24	6	7.41	29	14.36	4	9.52	6	10.34	2	10.53	12	10.08	41	12.78
21 and above	7	13.20	2	2.91	2	2.47	11	5.44	1	2.38	0	0.00	0	0.00	1	.84	12	3.74
Total	53	100.00	68	100.00	81	100.00	202	100.00	42	100.00	58	100.00	19	100.00	119	100.00	321	100.00

[1]Percentages are based on the actual number of people in each category answering this question (321 out of 365 answered).

respondents who spend over 16 hours per week on avoidable details.[1] (Table 12)

The chief differences between categories of respondents are found in the "21 and above" classification in which 5.4 per cent of the administrators indicated this category as compared with 0.8 per cent of the non-administrators. Also to be noted is the "16-20" hour span which shows that 14.3 per cent of the administrators come in this group, while only 10.0 per cent of the non-administrators fall within it. Another difference is the "1-5" hour category, where the non-administrators have a higher frequency --37.0 per cent as compared to 28.2 per cent for administrators. The mean number of hours spent by the 321 respondents answering this question is 9.1 hours per week.

In Part IV of the questionnaire in the analysis of the open-end questions, it was found that one of the chief factors that respondents complained about was the necessity of having to do work which they feel should be done by supportive staff. Even though no comments were called for in the instrument at the place this question 34 in Part III was asked, and no space was left for comments, nearly a dozen respondents wrote around the margins of the page or attached separate notes clipped to this question stating their dissatisfaction. The following two comments are typical:

> I want to give good service, but I do not have sufficient clerical staff to give efficient service unless I do many of the clerical-type tasks myself.
>
> I listed 37 hours per week, because I get paid a GS 9 salary to check in newspapers and route them.

It would seem that the answers to this question would have several implications for curriculum building. For one thing, the response to this question may be an important factor in the reason for the high demand for automation courses which is reported on in detail in a later section of this study. It may be that the respondents feel that

---

[1]The breakdown on the 12 respondents included in the "21 and above" category follows:

24 hours	1
25 hours	6 (one of these is the one non-administrator in the group)
27 hours	1
30 hours	2
37 hours	1
38 hours	1

automation might be a means of taking away some of their clerical work. Further, it would seem to indicate that course content in management and/or administration should include this problem of attempting to find ways and means for the administrator to make better use of the professional staff assigned to the library, with or without automated techniques. The full use of the talents that have been recruited to the profession is an important problem and one that is a part of the total library manpower issue.

These findings also have implications related to some areas of personnel work within the Federal civil service system. These statistics would seem to point up a fact brought out in a recent survey of a selected group of Federal librarians related to the new Civil Service Classification System for librarians (Stone, Ref. 10), regarding the attitude of job classifiers toward libraries and library positions. The survey showed that many of the librarians sampled felt that the personnel office seemed to assume that librarians are glorified clerks, and they have a tendency to grade jobs that way. This is probably one of the reasons why 67.0 per cent of the chief librarians in this study were found to be in grade 11 or less.

The question arises whether this amount of time spent on avoidable details that should be handled by supportive staff is typical of that found in surveys of other professions. One example is found in a study of Research and Development Officers in the Air Force in 1965 which was made by Morsh and others. (Ref. 8)

This same question was asked of the 798 respondents; it was found that the mean number of hours per respondent was considerably lower than for the library respondents in this study -- 5.2 hours per week in the Air Force study, as compared to 9.1 hours per week in this study.

Utilization of Talents. (Part III of the Questionnaire, Item 33, Page 10). Table 13 summarizes the responses of the respondents to the question: "How well does your job utilize your talents?"

Generally, the higher the grade, the better used are talents, but this condition has a tendency to be slightly more pronounced for the administrator than for the non-administrator. Out of all 365 respondents, 52.3 per cent indicated that they thought their talents were being used "very well" or "excellently." Forty-three per cent thought their talents were being used "very little", or only "fairly well". In the questionnaire there was an additional heading -- "not used at all" -- but none of the respondents checked this category. The question was not answered at all by 4.7 per cent of the respondents.

TABLE 13
DISTRIBUTION OF RESPONSES TO "HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS?":1968[1]

Type of Position	Talents Utilized										Total	
	Non-Response		Excellently		Very Well		Fairly Well		Very Little			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	(N=365)%
Administrators												
GS 9	(3)	0.82	8	2.19	18	4.93	26	7.12	8	2.19	63	17.25
GS 10,11	(5)	1.37	11	3.01	32	8.77	29	7.95	2	0.55	79	21.65
GS 12-14	(2)	0.55	15	4.11	43	11.78	25	6.85	3	0.82	88	24.11
Subtotal	(10)	2.74	34	9.31	93	25.48	80	21.92	13	3.56	230	63.01
Non-Administrators												
GS 9	(2)	0.55	4	1.10	17	4.66	19	5.21	10	2.74	52	14.26
GS 10,11	(3)	0.82	8	2.19	21	5.75	25	6.85	4	1.10	61	16.71
GS 12-14	(2)	0.55	6	1.64	8	2.19	5	1.37	1	0.27	22	6.02
Subtotal	(7)	1.92	18	4.93	46	12.60	49	13.43	15	4.11	135	36.99
TOTAL	(17)	4.66	52	14.24	139	38.08	129	35.35	28	7.67	365	100.00

[1]Percentages are computed on a base of 365.

It was noted in the analysis of the replies to the open-end questions that there was the general impression that in many cases the respondent's talents were not being utilized properly. However, Table 13 would seem to indicate that most of the people were fairly well satisfied. This seeming inconsistency needs further probing, especially in view of the fact that 90.3 per cent of the respondents answering question 34 in Part III stated that they were engaged in avoidable details that should be handled by supportive staff.

EDUCATIONAL VARIABLES

In as much as the data from this study is conceived as being one base on which to build courses for those who have already received the first professional degree -- the MLS in library science, only those were involved in the study who had received this degree, or who had received a bachelor's degree in library science at the graduate level before the early 1950's.

Library Degrees.

It was found that a high percentage of the respondents had as their highest professional degree the graduate fifth-year BLS, which was granted before the early 1950's. In fact, out of the total of 365 respondents, 29.9 per cent hold this type of degree only; 2.7 per cent hold both the fifth-year BLS and the MLS; and 67.4 per cent hold the MLS degree. The distribution of these graduate degrees by agency is shown in Table 14. In addition, four of the respondent stated that they have participated in a sixth-year post-MLS program in library science.

Table 15 gives the gradewise frequency distribution of the years in which the respondents received their MLS (or graduate BLS) degrees. Percentages are based on the number giving exact year of degree, (348).

TABLE 15

FREQUENCY DISTRIBUTION OF THE YEARS IN WHICH THE RESPONDENTS OBTAINED MLS (OR GRADUATE BLS) BY GRADE LEVEL: 1968

Years	Grade Level			Total	
	9	10,11	12-14	No.	(N=348) %
Before 1950	20	48	38	106	30.49
1950-1954	13	18	23	54	15.52
1955-1959	8	21	19	48	13.79
1960-1964	25	26	13	64	18.39
1965-1969	45	21	10	76	21.84
Subtotal	111	134	103	348	100.00
No Date	4	6	7	17	-
TOTAL	115	140	110	365	-

TABLE 14

DISTRIBUTION OF TYPE OF GRADUATE LIBRARY SCIENCE PROFESSIONAL DEGREES HELD BY THE RESPONDENTS BY AGENCY:1968

Agency	Those Holding Only a Fifth-Year Graduate BLS Degree	Those Holding Both a Fifth-Year Graduate BLS and an MLS	Those Holding Only an MLS	Total
Library of Congress	6	4	63	73
Army[1]	20	1	31	52
Navy	8	1	19	28
Air Force	18	0	33	51
Veterans Administration	20	2	14	36
D.C. Public Library	6	0	8	14
Health, Education, and Welfare	6	0	15	21
Agriculture	4	1	10	15
Other Agencies	21	1	53	75
Total	109	10	246	365
Per Cent	29.86%	2.74%	67.40%	100.00%

[1]One respondent in this group also has a Ph. D. in library science.

Undergraduate Major.

Analysis of Table 16 reveals that the major fields of study reported most frequently by those respondents who specified their undergraduate major were English and journalism (23.3 per cent of the 365 respondents), history (11.5 per cent), foreign languages and literature (9.9 per cent), and education (7.1 per cent). These four subjects constitute 51.8 per cent of all the subjects reported. When the courses are grouped by large areas, 41.4 per cent fall in the humanities and 28.5 per cent in the social and behavioral sciences. There is no apparent relationship between bachelor's major, type of job, or grade level with the one exception that more non-admininistrators than administrators proportionately have bachelor's degrees in social and behavioral sciences.

Area of Concentration of Non-Library Graduate Degrees.

A summary of the graduate degrees held by the respondents in non-library areas is given in Table 17. As is the case with the bachelor's degree, the heaviest concentration is in the humanities and in the social and behavioral sciences.

At the master's level, the subjects in which there is the heaviest concentration are foreign languages and literature (11 respondents), and the second highest grouping is in the fine and applied arts (9 respondents). Only one of the respondents has obtained an advanced degree in administration or management although administrators make up 63.0 per cent of the 365 respondents. (Subject breakdown is not given in Table 17)

There does not seem to be any apparent relationship between type of position held and the possession of a master's degree in any particular subject area. The distribution of masters' in other subject areas seemed to be fairly equally distributed between administrators and non-administrators. Some differences relative to grade level are noticeable, however. For example, there is a distinct difference between GS 12-14 and GS 9 in relation to the number of respondents holding a master's in another subject area, with a noticeably larger number falling in the GS 12-14 category.

The sequence of training of those respondents who hold an advanced degree in another subject area in addition to the MLS is interesting to note. Out of the 64 advanced degrees held in non-library subjects (in addition to the MLS) 71.9 per cent completed their degrees in the other subject areas before receiving the MLS. The fact that only 28.1 per cent of the degrees were received after the MLS indicates a pattern of education that is also noted in the Schiller study of college and university

TABLE 16

BACCALAUREATE MAJOR BY TYPE OF POSITION AND GRADE LEVEL: 1968

Baccalaureate Major	Type of Position				Grade Level						Total Respondents	
	Administrative		Non-Administrative		9		10, 11		12-14			
	No. (N=230)	%	No. (N=135)	%	No. (N=115)	%	No. (N=140)	%	No. (N=110)	%	No. (N=365)	%
Humanities and Arts												
English and Journalism	56	24.35	29	21.48	27	23.48	31	22.15	27	24.55	85	23.29
Foreign Languages and Literature	25	10.87	11	8.15	9	7.83	10	7.14	17	15.45	36	9.86
Fine and Applied Arts	10	4.35	6	4.45	8	6.96	3	2.14	5	4.55	16	4.38
Other	9	3.91	5	3.70	5	4.35	3	2.14	6	5.45	14	3.84
Subtotal	100	43.48	51	37.78	49	42.62	47	33.57	55	50.00	151	41.37
Social and Behavioral Sciences												
Administration and Management	3	1.30	1	0.74	2	1.74	1	0.71	1	0.91	4	1.10
Psychology, Philosophy, and Religion	6	2.61	2	1.48	2	1.74	2	1.43	4	3.64	8	2.19
History	25	10.87	17	12.59	12	10.43	17	12.14	13	11.82	42	11.51
Other	24	10.43	26	19.26	14	12.17	20	14.29	16	14.54	50	13.70
Subtotal	58	25.21	46	34.07	30	26.08	40	28.57	34	30.91	104	28.50
Basic and Applied Sciences[1]	25	10.87	14	10.37	12	10.43	16	11.43	11	10.00	39	10.68
Education	18	7.83	8	5.93	11	9.57	12	8.57	3	2.73	26	7.12
Library Science	6	2.61	4	2.96	4	3.48	5	3.57	1	0.91	10	2.74
Not Specified	23	10.00	12	8.89	9	7.83	20	14.29	6	5.45	35	9.59
TOTAL	230	100.00	135	100.00	115	100.00	140	100.00	110	100.00	365[2]	100.00

[1] Applied sciences include such subjects as engineering, nursing, agriculture, pre-med., forestry, etc.

[2] Four respondents listed 2 bachelors degrees, or which only the first received was used in this table. The second bachelors listed by four individuals are: 2 in education, and one each in English and library science.

TABLE 17

AREA OF CONCENTRATION OF NON-LIBRARY GRADUATE DEGREES BY TYPE OF POSITION AND GRADE LEVEL: 1968

Descriptive Category	Grade Level			Type of Position		TOTAL	
	9	10, 11	12-14	Administrative	Non-Administrative		
	(N=115)	(N=140)	(N=110)	(N=230)	(N=135)	No. (N=365)	
GRADUATE: Masters							
Before MLS							
Humanities	5	4	8	13	4	17	4.66
Social and Behavioral Sciences	4	10	2	2	14	16	4.38
Basic and Applied Sciences	--	2	2	4	--	4	1.10
Education	2	2	2	4	2	6	1.64
Subtotal	11	18	14	23	20	43	11.78
GRADUATE: Masters							
After MLS							
Humanities	1	5	4	9	1	10	2.74
Social and Behavioral Sciences	--	1	3	3	1	4	1.10
Education	--	2	1	1	2	3	.82
Subtotal	1	8	8	13	4	17	4.66
Total Masters	12	26	22	36	24	60	16.44
GRADUATE: Ph.D.							
Before MLS							
Social Sciences	--	--	3	2	1	3	.82
GRADUATE: Ph.D.							
After MLS							
Social Sciences	--	--	1	1	0	1	.28
Total Ph.D.	--	--	4	3	1	4	1.10
TOTAL Graduate Degrees in Non-Library Science Areas	12	26	26	39	25	64	17.54

librarians. (Ref. 9) In other words, those who are planning post-MLS programs for librarians should be aware that the pattern set by the librarians to date indicates a much heavier evidence of advanced degree study before the MLS rather than after.

CHARACTERISTICS OF FEDERAL LIBRARIANS COMPARED WITH THOSE OF OTHER TYPES OF LIBRARIANS

The question arises: Are the Federal library respondents in this study unique in the personal and job-related variables presented about them in this survey, or are they very similar to librarians in general? In an attempt to answer this question partially, a profile of the respondents in this study and the respondents in two other 1968 surveys of other types of librarians is presented in Table 18.

The first column in the table reports profile data of the Federal librarian respondents in this study. The second column reports data concerning college and university librarians as set forth in a survey by Schiller (Ref. 9), and the third column summarizes data from a study of all types of librarians by Stone (Ref. 11).

Examination of this profile chart reveals that there is a close similarity in many of the personal and job-related characteristics covered by these three separate surveys. As background for examination of the table, certain characteristics of each study should be noted.

Whereas the present study of Federal librarians and the Stone study of all types of librarians included only those individuals with the fifth-year master's degree in library science, the Schiller study included all professional personnel employed in academic libraries; and of the respondents, 16.5 per cent did not hold a fifth-year graduate degree. (Ref. 9:39) There are certain other differences to be noted also, in the populations from which the samples were drawn for each of these studies. The present study excluded the lowest level of professionals (GS 7) as well as the highest levels (GS 15 through 18). With these exclusions, the population, based on statistics released by the Civil Service Commission, equals 2677. Of this number it was found that just over 50 per cent, or 1347, held MLS degrees, and this number constituted the population used in this study. The population for the college and university study (Ref. 9: 23) comprised over 13,000 persons employed either on a full-time or part-time basis in academic libraries; the population for the Stone study (Ref. 11:14) consisted of 806 MLS graduates of the 1956 and 1961 classes of of the library schools accredited by the American Library Association and whose names were listed in the 1966 edition of Who's Who in Library Service.

In the following paragraphs, comments are made relative to this

TABLE 18

A PROFILE OF FEDERAL LIBRARY RESPONDENTS COMPARED WITH OTHER TYPES OF LIBRARIANS: 1968

Variable	Type of Librarian Respondents from Three Different Studies		
	Federal (N=365)	College and University[1] (N=2282)	Academic, Public School, and Special[2] (N=138)
Background Characteristics			
Average age at time of survey	44.4[3]	44.9(median)	42.6
Sex:Percentage female	73.4	64.0	58.0
Average age of female respondents	45.0	48.0(median)	44.0
Average age of male respondents	43.1	41.3(median)	44.0
Education			
Percentage with 5th-year graduate BLS	29.9	17.8	--
Percentage with MLS in library science	70.1	65.7	100.0
Percentage with Ph.D. in library science	0.3	0.8	--
Percentage with Ph.D. in subject area	1.1	1.7	1.4
Percentage with master's in subject field in addition to MLS or 5th-year BLS	16.4	17.6	23.2
Percentage with 6th-year post-MLS program	1.1	5.5	0.0
Baccalaureate Major:			
Percentage in humanities	41.4	49.3	40.6
Percentage in social and behavioral sciences	28.5	26.6	33.3
Percentage in education	7.1	7.9	13.0
Percentage in basic and applied sciences	10.7	6.8	10.9
Percentage in library science	2.7	4.9	2.2
Percentage not specified	9.6	4.5	--
Percentage having master's in addition to MLS	16.4	17.6	23.1
Percentage in humanities	7.4	--	10.9
Percentage in social and behavioral sciences	5.5	--	7.2
Percentage in education	2.5	--	3.6
Percentage in basic and applied sciences	0.8	--	1.4

Table 18, Page 2 A Profile of Federal Library Respondents Compared with Other Types of Librarians: 1968

Variable	Type of Librarian Respondents from Three Different Studies		
	Federal (N=365)	College and University[1] (N=2282)	Academic, Public School, and Special[2] (N=138)
Percentage of advanced non-library degrees received after the MLS	28.1	21.0	5.8
Percentage of those who received their MLS before 1950	30.5[4]	25.0[5]	--
Percentage of those who received their MLS between 1950 and 1959	29.3[4]	29.0[5]	--
Percentage of those who received their MLS after 1960	40.2[4]	46.0[5]	--
Experience			
Average number years in present position	4.9	3.9	4.3
Percentage in administrative positions (Heads, Assoc./Asst. Librarian; Department or Division Heads)	60.3	61.7	73.1
Percentage who are heads	24.9	15.3	33.0
Percentage of men who are heads	26.0	21.6	37.9
Percentage of women who are heads	24.5	11.8	26.6
Supervision			
Percentage supervising no one	30.0	26.6	--
Percentage supervising more than 5 people	31.1	25.9	--
Percentage supervising 20 or more people	8.0	7.7	--
Percentage of men who supervise more than 10 people	28.1	25.9	--
Percentage of women who supervise more than 10 people	13.3	10.5	--
Percentage with non-library experience at a professional, technical or administrative level	46.6	51.1	53.6

Table 18 Page 3 A Profile of Federal Library Respondents Compared with Other Types of Librarians: 1968

Variable	Type of Librarian Respondents from Three Different Studies		
	Federal (N=365)	College and University[1] (N=2282)	Academic, Public School, and Special[2] (N=138)
Percentage who had left library work for 6 months or more	21.4	24.2	--
Percentage who had left for marriage or family	35.9	39.5	--
Percentage who had left for further education	25.6	28.2	--
Percentage who had left to work in another field	18.0	15.0	--
Percentage who had left for military service	12.8	11.2	--

[1]Schiller (Ref. 9)
[2]Stone (Ref. 11)
[3]Average given is the mean unless otherwise noted.
[4]Percentages based on 348 out of 365.
[5]Percentages based on 1792 respondents out of 2282.

comparative data which would seem to be important relative to course and curriculum building, and at the same time explaining possible causes for differences where they arise.

Age.

It is to be noted that the average age at the time of the survey was very similar in all three groups. Thus none of these three groups are so old that retirements will deplete their numbers in the near future, which implies that motivation toward post-MLS study should be of vital concern to all three groups when the profession needs to be transformed along the vastly different lines which technological, societal, and behavioral advances require.

Attention, too, should be drawn to the fact that in the Stone library survey (column 3) the mean age is almost as much for those receiving their MLS in 1956 and 1961 as it is for the other groups which include many who received their MLS degrees much earlier. This would seem to be an indication that the average age of entrants to library school is rising. This is a factor which deserves the major concern of those involved in building post-MLS programs, for it is brought out in these studies that the older the entry level to the MLS-level program, the less likely persons are to engage in formal course work following their MLS degree. Basically, this is a problem to be faced by recruitment and admissions officers of the MLS program.

Sex Ratio.

In a profession that as a whole is typically thought of as an occupation made up of women, the fact that the Federal librarians have a higher ratio of women than the other two groups represented deserves particular attention; for, as pointed out in each of these studies, there is a tendency for more men to return for formal education programs following the MLS degree than for women. Therefore, the fact that in the Stone library survey, the ratio of men would seem to be increasing might mean that the demand for courses at the post-MLS level in the future would show an increase if the tendency to turn out more men with the MLS degree continues.

Education.

There is a marked similarity between the three surveys relevant to the subject fields covered both in undergraduate programs and in graduate degree work in addition to the MLS. This similarity in educational background of the three groups of librarians would seem to substantiate the argument that any curriculum built from the conclusions of this

survey would also be acceptable and satisfactory to librarians other than Federal librarians. It means that the post-MLS program can plan for an overlay on a base of knowledge that is fairly uniform in its essential composition.

For curriculum builders, it would seem important to note that the established pattern, as borne out in all three of these surveys, is for the additional graduate work, in whatever field, to be taken before rather than after the MLS. In other words, up to this time there has been comparatively little degree-taking by MLS holders after that degree is received. In building a post-MLS program, it would seem that an awareness of this should be kept in mind as lack of motivation to take work following the MLS may continue to be a barrier in building well-attended programs. This, as a matter of fact, is reflected in the data presented by the exceedingly small number in any of the three groups who have availed themselves of the opportunity of participating in a sixth-year program in library science, as they have been established now for several years.

It might be noted here that one possible reason for the lack of participants in the post-MLS programs is the very name of the programs -- sixth-year program in library science -- which brings no objectives or purpose to mind. It would seem that a definite type of title with a degree involved might be more appealing and indicate a given school's type of speciality, such as Master of Library Administration.

Experience.

Perhaps the most striking statistics among those in the "experience" category on the chart is the high percentage of those in administrative positions, in spite of the fact that the college and university survey included 16.5 per cent who do not hold a fifth-year degree, and the fact that in the Stone librarian survey, the earliest date for receiving the MLS degree was 1956; and even so, this group has the highest percentage in the administrative group. This would seem to be a definite guideline to post-MLS curriculum builders that with this high percentage in administrative tasks, most of whom from their educational background have not been particularly training for this type of position, that there is a real need for such a program emphasis on the part of the practicing librarians for advanced work in the area of administration and management -- a fact which is, in reality, brought out in many sections of this survey. Relative to this high number of people in administration, it is also interesting to note that the average time in present position is very nearly equal for all groups, and the fact that having been in their positions such a short time, but yet having these advanced posts, indicates something of the demand for people with expertise in library administration.

Another factor to note is the high percentage who entered librarianship from other professions in all three studies. In admitting such a high proportion of second career people to the MLS program, the potential available for post-MLS programs may be cut down at that very point, for there seems to be a tendency for those who come from another profession to be less apt to engage in post-MLS formal study than those who have librarianship as their first career choice.

The most interesting thing about the percentages for those who have left library work for six months or more and come back is the great similarity in each instance between the Federal librarians and the college and university librarians.

Conclusion.

This comparative table has been presented in order to visualize the fact that even though the Federal librarians represent but one type of library service today, their personal characteristics, educational background, and experience is very similar to that of other types of librarians that have been surveyed. Therefore, it would seem safe to conclude that a post-master's program that was sensitive to their needs and demands, would, in all likelihood, also be able, to a large extent, to meet the needs of other types of librarians.

SUMMARY OF THE BACKGROUND CHARACTERISTICS OF FEDERAL LIBRARIANS

Some of the important findings presented in this section relate the background characteristics of Federal librarians that would seem to have special importance relative to interviewing supervisory personnel in order to establish and assess relationships between management's concepts concerning post-MLS training and the views of the practicing Federal librarians. Also, it is data which can be used in forecasting future patterns for post-MLS programs in library science.

(1) The average age of the administrators in the study was 6.7 years higher than the age of the non-administrator.

(2) The average age for the women in the study was slightly higher than that of the men.

(3) The average number of years of professional experience for the administrator was 8.0 years higher than that of the non-administrator.

(4) Administration was a major concern to 63 per cent of the respondents. Twenty-five per cent of the respondents were heads of libraries; 18 per cent were heads of departments or divisions. It should be noted, however, that 14 of the heads (4 per cent of all 365 respondents) were heads of one-to-three man libraries. At the present time in order to advance in the civil service structure, the librarians almost necessarily have to leave subject specialities behind and go into administrative positions. This raised a question for top-level library personnel being interviewed also. Is this tendency to advance only through the medium of administration going to last? Is it further accentuated by the advent of automation, or will it be less accentuated? Did the top-level library personnel being interviewed believe those under them in a given category needed special training in administration in order to operate more effectively?

(5) Among the non-administrators the two largest job types were catalogers (12 per cent of the respondents) and reference librarians (10 per cent of the total). Eighty-four per cent of the catalogers and 89 per cent of the reference librarians fell within grades 9 to 11.

(6) Ninety per cent of the librarians report spending an average of 9.1 hours a week on avoidable detail, which is 4 hours more than Research and Development Management Officers in the Air Force spent. (Ref. 8:10)

(7) Fifty-two per cent of the librarians reporting in this survey are of the opinion that their talents are well used by their jobs.

(8) Judgments differed with respect to the minimum experience needed to perform Federal library jobs as represented in this survey. However, the librarians in general have considerably more experience than they judge to be minimal. The catalogers constitute the largest group indicating no experience is needed for their jobs.

(9) It was found that administrators tended to have worked longer in their present positions than non-administrators (2.5 years more); that the number of years worked in present position tends to increase with the grade level. The average number of years in the present position for the respondents was 5 (4.9), and the average number of libraries in which the respondents had worked was 3.4.

(10) The Federal librarians have worked in more libraries within the Federal government (average 2.04) than in libraries outside the

government (average 1.4); all together they have worked in an average of 3.4 libraries. There is a tendency for the women to move less and to be in their present positions longer than the men, and to have worked for the Federal government longer. The over-all average of the respondents was 11.0 years with the Federal government. There was a great deal of variation among the agencies in both years in the Federal government and years in the present position. (The Veterans Administration, D.C. Public and the Navy employed those with the highest number of years in their present positions); the Veterans Administration, the Army and Navy employ those with the most years in the Federal government. The Library of Congress employees had the least time in their current position and the least time working for the Federal government.

It would seem that the bulk of tomorrow's Federal library leaders will come from within the ranks of those already recruited. The question arises: What is to be done about providing competence to those who reach the top posts? What can be done about retaining them once they get there?

(11) In the present study, one out of five Federal librarians (21.4 per cent) stated that they had left library work for six months or more at some point after they had begun professional employment. Of those leaving temporarily, one out of four left to obtain further education (25.6 per cent of the 78 who had left cited this reason).

(12) Perhaps the most important finding relative to supervision as related to course building is the fact that the average number of employees supervised by the administrators is 9.7 with a range from 2 to 93, while the average for the non-administrators is less than one person (0.9) and the range is only 1 to 9. Further, 37.9 per cent of the non-administrators supervise no one. This might imply that if administrators and non-administrators were admitted into the same post-MLS program, a great deal of effort should be made to match the training to the individual needs and background of those enrolled.

Another possibility might be a differentiated training program for administrators and non-administrators, as suggested by Culbertson for educational administrators. (Ref. 2) The program for administrators would select its candidates only from those in administrative positions in libraries or from those who have displayed leadership abilities and wish to prepare to become administrators.

(13) Fifty per cent of the respondents were employed in headquarters libraries, as compared to 35 per cent who worked in field offices: however, a higher number of the administrators were employed in regional or field libraries than in headquarters libraries.

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CHAPTER IV

RESEARCH FINDINGS: JOB DIMENSIONS OF THE FEDERAL LIBRARIAN

The primary purpose of the job inventory survey was to identify and examine the specific job activities performed by Federal librarians. This chapter contains a detailed quantitative analysis of the job activities listed in the job inventory; a qualitative analysis, much smaller in scope, based on the self-perceived competencies of the respondents, the free response answers made by the respondents in answer to an open-end question about the job inventory; and a summary and conclusions of the research findings presented in this chapter.

The data input presented in this chapter was deemed a necessary part of the groundwork on which to develop well-defined job-relevant objectives for the model courses to be developed in Phase II of the project. Thus, the design for this part of the study was based on the assumption, supported by considerable research evidence that the aspect of course development that should receive primary attention is the development of well-defined job-relevant objectives. When objectives are appropriately developed, Smith (Ref. 5 :5) emphasizes and demonstrates that they provide clear guidance that permits an orderly presentation of course content.

ANALYSIS OF THE JOB INVENTORY

The quantitative analysis of the job inventory has the following facets: (1) examination of the applicability of the job inventory used; (2)separate analyses of the activity items in the job inventory in two different dimensions, namely time and importance; (3) analysis of the job activities when these two dimensions are combined; (4) analysis of the 13 major job functions or areas of major activity under which the job activities were grouped in the questionnaire.

Before embarking on a detailed analysis of the results obtained relative to the job inventory, it should be pointed out that up to this point in the presentation, the analysis has been related to variables for which it is possible to obtain and to report precise information, in so far as the questions were answered by the respondents. In dealing with the data from the job inventory, however, it needs to be emphasized that the statistics presented are based largely on data of a subjective nature. The respondent presumably gave an accurate indication of the job items he performs, but his estimate as to the relative time and importance that he attaches to each job activity is subjective. Nevertheless, it was considered important to discover how the respondents

view the activities that they perform in relation to time and importance, as this is important in determining the job roles they actually perform, and therefore a necessary dimension in task analysis aimed at curriculum building.

The Applicability of the Questionnaire.

Each respondent was asked to consider statements relating to the job activities he performed in two dimensions -- time and importance. For all of those statements applicable to a given position, a rating was to be made on two separate but parallel scales. Each scale had three degrees of applicability from which the respondent could choose regarding a given job activity item: (1) most, (2) substantial, and (3) least. It also needs to be remembered that the job activities were divided into two sections: (A) Specialized Library Functions (114 job activities listed under 13 areas); and (B) General Administrative and Management Functions (109 job activities under 8 areas). Scattered throughout the job activities at the end of each of the main areas there were 21 lines marked "other". Uniformly there were very few items listed by the respondents under the "other" headings, and in almost every instance where something had been filled in, it was found to be an item which had been covered in the listings, but somehow had been overlooked by the respondent.

Tables 19 and 20 give the means, medians, standard deviations and ranges of the frequency of job activity items checked according to type of position and grade. Examination of these tables show that the respondents varied widely in the degree to which they found the questionnaire applicable to their positions. These variations are presented in the following paragraphs. (Appendix Tables VI, VII)

Taking all the 365 respondents together, the mean number of items checked in the job inventory for specialized library functions is 17.99 with a standard deviation of 17.59 and a range of 0-105; the mean number of administrative items checked by all the respondents is 29.36 with a standard deviation of 28.10, and a range of 0-109; taking all the job items together the mean number checked by the 365 respondents is 47.35, with a standard deviation of 41.15 and a range of 1-192.

Table 19 deals with the applicability of the questionnaire when the respondents are divided into administrators and non-administrators. The mean number of specialized library functions checked by the administrators is 22.72 which is much higher than the 9.99 mean for the non-administrators. For the specialized functions the standard deviation also is much higher for the administrators than for the non-administrators -- 19.41 as compared to 9.65. The range was also greater for the administrators. The largest number of items checked

TABLE 19

APPLICABILITY OF JOB INVENTORY: FREQUENCY OF JOB ITEMS CHECKED BY RESPONDENTS BY TYPE OF POSITION: 1968

Number of Job Items	Frequency by Respondent								
	Specialized Library Functions			Administrative Functions			All Functions Together		
	Administrative	Non-Administrative	Total	Administrative	Non-Administrative	Total	Administrative	Non-Administrative	Total
Mean	22.72	9.99	17.99	42.72	6.59	29.36	65.44	16.58	47.35
Median	18.00	8.00	13.00	41.00	3.00	20.00	59.00	14.00	38.00
Standard Deviation	19.41	9.65	17.59	26.78	9.56	28.10	39.95	15.48	41.15
Range	0-105	0- 77	0-105	0-109	0- 45	0-109	8-192	1-107	1-192

TABLE 20

APPLICABILITY OF JOB INVENTORY: FREQUENCY OF JOB ITEMS CHECKED BY RESPONDENTS BY GRADE LEVEL:1968

Number of Job Items	Frequency by Respondent											
	Specialized Library Functions				Administrative Functions				All Functions Together			
	Grade			Total	Grade			Total	Grade			Total
	9	10,11	12-14		9	10,11	12-14		9	10,11	12-14	
Mean	23.08	19.31	10.48	17.99	30.59	27.39	38.60	29.36	53.67	46.57	49.08	47.35
Median	15.00	15.00	8.00	13.00	7.00	17.00	38.00	20.00	24.00	37.00	51.00	38.00
Standard Deviation	21.69	15.72	10.67	17.59	18.56	27.02	23.85	28.10	47.59	40.65	32.61	41.15
Range	0-105	0- 77	0- 60	0-105	0-109	0- 99	0-103	0-109	1-192	2-153	1-125	1-192

by any administrator is 105, while the largest number checked by non-administrators is 77.

Examining the administrative functions in Table 19, it is found that the mean for the administrators is 44.72 which is almost seven times as high as the 6.59 for non-administrators. The standard deviation for the administrators is 26.78 as compared to 9.56 for the non-administrators. The range was also higher for the administrators. The largest number of items checked by any administrator was 109, while the largest number checked by non-administrators was 77.

These statistics show that not only did the administrators check many more administrative functions, but also many more specialized library functions than did the non-administrators. In each instance the standard deviation for administrators is larger than the standard deviation for non-administrators, which means that there is a greater variation in job items performed among administrators than among non-administrators. Further, the range is always larger for administrators than for non-administrators. These statistics might be an indication that because of a shortage of staff, small size of the library, or for other reasons, the administrators are spending a considerable amount of time operating at a non-administrative level.

From examination of Table 20, comparing the responses in the job inventory by grade level, there is an apparent tendency for the variance to decrease as the grades increase. The median shows a pattern, namely, that the median goes down as the grade increases for the specialized function, but goes up for administrative functions as the grades increase, and this is also true if all the functions are considered together.

Summing up this section on applicability, it can be stated that the respondents presumably found the job items surveyed in the questionnaire adequate, and furthermore, the large means indicate that the answers are also very dependable. Not only is the data from this job inventory a valuable source for the selection of courses, but it is also essential for determining job-related statements for training programs and for determining course content that is needed by librarians in their jobs. In the development of individual courses, data are provided which can be used as indicators of the weight to give to various elements of a course; at what level training should be provided; and pertinent data to use in the development of course objectives.

The Dimension of Time.

The significance of time spent in the performance of job activities can

best be judged in combination with other factors, but time is one important measure to use in building well-defined, job-relevant objectives and in deciding on the level of training that will enable the librarian to perform his job at his highest potential.

Table 21 is a summary presentation which indicates the highest response rates on the time factor for all respondents. This table does not distinguish between the three time scales;however, this table is supplemented in the Appendix by Table VIII which indicates the number of respondents for each scale. From this latter table, the percentage of respondents answering each question according to a given time dimension is made possible. Figure 2 presents graphically the percentages of the "most" and "substantial" responses for the eight top-ranking job activities (according to percentage of respondents checking the item). The source for these percentages is apparent in Table VIII. The table also indicates the number and percentage of respondents who checked each job activity and ranks the largest 50 activities according to percentage of respondents checking the items. Such percentages can be used profitably in making decisions concerning course objectives and course content.

In order to combine different time dimensions and get one score, weights were assigned to three possible degrees of applicability for time from which the respondent could choose. Thus, a check for "most time consuming" was given a score of 5, a check for a "substantial" amount of time was given a score of 3, and a check for one of the "least time consuming" was given a score of 1. The rated scores for all items were then computed, and Table 22 presents the top-ranking 25. These weights were not arbitrarily decided, but were arrived at after careful statistical considerations.

In comparing Tables 21 and 22, it is to be noted that only 16 items are common to both of them, and of these, 14 are administrative functions, 10 of which fall under the category of "Directing" as listed in the questionnaire. It is also to be noted in Table 21 that the top 7 items have been checked by 50% or more of the 365 respondents, and of these, 5 fall in the general category of directing.

Another item, number 201, "Identify and develop potential in subordinates," was checked for the time dimension by 149 respondents and received a ranking of 17 in Table 21, but does not appear at all in Table 22, since 91 out of the 149 respondents checked the item under the least time-consuming category, as can be seem in Appendix Table VIII. The reason that this particular item is singled out for comment is because it plays a pivotal role in administration -- a fact which is being more

TABLE 21

JOB ACTIVITY ITEMS SHOWING HIGHEST RESPONSE RATES ON TIME FACTOR FOR ALL 365 RESPONDENTS: 1968

Job Item Number	Job Item	No. Checking Time Factor For Item	Rank
187.	Directly supervise and guide subordinates	227	1
188.	Assign jobs to subordinates	208	2
191.	Check the accuracy of work of subordinates	202	3
237.	Attend professional meetings and/or conferences	197	4
190.	Train new employees in the performance of their work	190	5
98.	Actively answer reference questions	185	6
193.	Make decisions without consulting others	181	7
194.	Make decisions based on consultation with subordinates	178	8
195.	Give orders to initiate, modify, or stop activities	175	9
206.	Give prompt and full attention to all communications received	175	9
197.	Give subordinates authority to command or to act in certain areas	174	11
217.	Assign priorities for the completion of work	170	12
216.	Schedule activities to insure that deadlines are met	168	13
199.	Stimulate subordinates toward superior performance and creativity	167	14
228.	Interpret library programs to key officials, users, special groups	164	15
198.	Review decisions and/or proposals that are made by subordinates	162	16
201.	Identify and develop potential in subordinates	149	17
192.	Brief subordinates on immediate and continuing library programs	148	18
142.	Help develop new programs and/or activities	144	19
169.	Prepare position descriptions or analyses	143	20
140.	Recommend policy changes	140	21
96.	Have over-all responsibility for the reference services provided	138	22
131.	Determine needed programs for the library	136	23
64.	Provide research assistance	135	24
166.	Select personnel	135	24

FIGURE 2

JOB ACTIVITIES OF FEDERAL LIBRARIANS SHOWING HIGHEST PERCENTAGE OF RESPONSE
(N=365)

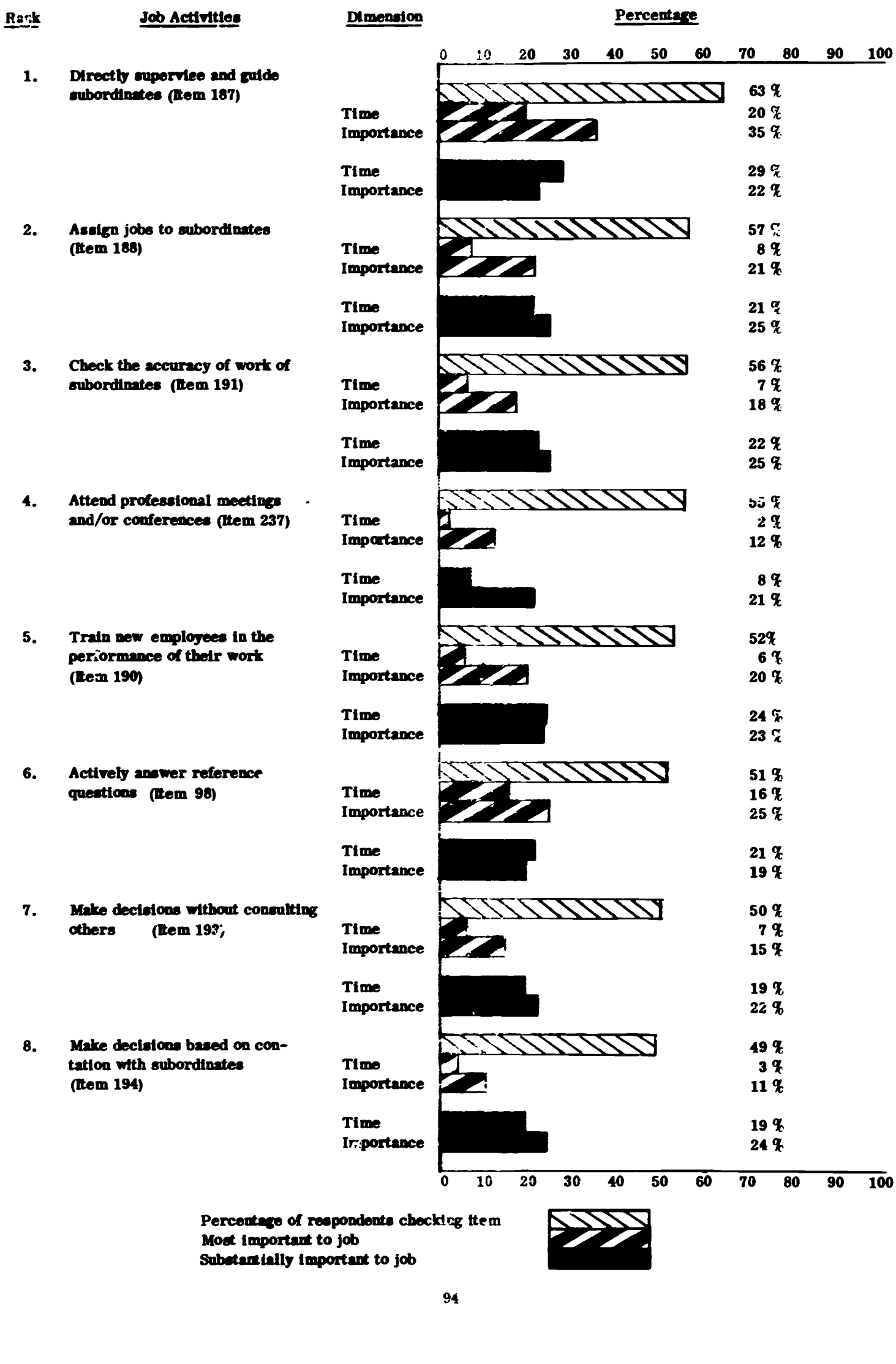


TABLE 22

JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED TIME SCORE FOR ALL 365 RESPONDENTS: 1968

Job Item Number	Job Item	Weighted Time Score	Rank
187.	Directly supervise and guide subordinates	727	1
98.	Actively answer reference questions	583	2
188.	Assign jobs to subordinates	478	3
191.	Check the accuracy of work of subordinates	464	4
190.	Train new employees in the performance of their work	458	5
206.	Give prompt and full attention to all communications received	443	6
96.	Have over-all responsibility for the reference services provided	436	7
193.	Make decisions without consulting others	415	8
60.	Have over-all responsibility for clientele services	413	9
8.	Am responsible for the over-all acquisitions program	411	10
228.	Interpret library programs to key officials, users, special groups	408	11
216.	Schedule activities to insure that deadlines are met	392	12
64.	Provide research assistance	383	13
29.	Have over-all responsibility for the cataloging program	366	14
62.	Refer clients to sources of information	364	15
194.	Make decisions based on consultation with subordinates	364	15
217.	Assign priorities for the completion of work	360	17
199.	Stimulate subordinates toward superior performance and creativity	357	18
128.	Integrate library programs with missions of parent organization	354	19
108.	Have over-all responsibility for operation of selection system	338	20
131.	Determine needed programs for the library	330	21
114.	Make tentative selection of material from reviews, catalogs, lists	329	22
195.	Give orders to initiate, modify, or stop activities	325	23
142.	Help develop new programs and/or activities	324	24
198.	Review decisions and/or proposals that are made by subordinates	3.6	25

and more emphasized throughout management literature.

For an indication of how administrators compare with non-administrators relative to the time dimension, Appendix Table IX is presented. For the administrators, there appear 8 job items of specialized library function in the top ranking 25 items, and in these 8 we find items, namely "50"[1] and "80"[2], which did not appear in Table 22. This indicates that even though these items were enumerated under specialized library functions, it was probably the administrators who were doing these jobs more than the non-administrators. However, for the non-administrators, the top ranking 25 items include 6 items of administrative functions. Further, 5 job items are common to administrators and non-administrators, out of which 4 are administrative in nature. In fact, all of these 4 are under the major job function, namely directing. This indicates that directing is a very important function both for administrators and non-administrators. This conclusion is further strengthened when this material is analyzed from a new perspective, namely joint time/importance scores later.

Another important feature of this table is that out of the 8 job items of specialized library functions included by administrators in the top ranking 25 job items, 7 are of a very similar type. All of these 7 can be broadly called supervisory in nature. A typical example of these is: "Have over-all responsibility for reference services." Henceforth, this type of job item will be referred to as a supervisory type of specialized library function. An examination of this table shows that these supervisory types of job items are not at all represented in the top ranking 25 job items for the non-administrators.

Turning now to a comparison of grade level relative to time factor, data is presented in Appendix Table X. The important feature of this table is that as the respondents move up in grade, the time devoted to specialized library functions keeps on decreasing. For grade 9 we have 17 specialized library functions out of the top ranking 25 job items, while for grades 10, 11, this figure reduces to 13, and for grades 12-14, this figure drops to zero, indicating that at those grade levels, the share of time for specialized library functions is very meager.

Here again in grades 12-14, directing plays a major role. Thirteen job items out of 21 job items constituting that major function figure among the top ranking 25 job items. However, it is interesting to note that job

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[1]Activity Item 50: Have over-all responsibility for circulation system.

[2]Activity Item 80: Match information against field-of-interest profiles

item 201, "Identify and develop potential in subordinates," is not one of the 13.

Both of these tables point out that directing holds a predominant position among major functions for librarians -- a fact to be remembered in curriculum building, especially at the post-MLS level.

The Dimension of Importance.

A different perspective that is indispensible toward building courses and determining course content in keeping with training objectives is knowledge of how important a job item is in accomplishing the library's objectives. It may be argued that this dimension is more important than the time dimension since, after all, in the ideal situation time should be completely dependent on the importance which is independent, mathematically speaking, and immutable. However, the limitation associated with this dimension must be borne in mind, namely, that it is not only subjective, but also attitudinal. And further, whereas time can be measured, there is no yardstick to measure importance.

Parallel tables to those presented relative to the dimension of time and computed in the same manner, are given for the importance factor. It was found that the number checking the importance factor for each item is generally the same as the number checking the time factor for each item. This can be noted in Appendix Table VIII.

Table 23 presents job activity items ranked according to weighted importance score for all respondents. Here it is found that Item 187, "Directly supervise and guide subordinates," is still Rank 1 with a weighted importance score of 897, which score is 196 points more than Item 188, which ranked second -- "Assign jobs to subordinates." It is interesting to note that Item 201, "Identify and develop potential in subordinates," is Rank 18 with a score of 511, whereas it did not appear at all in the top 25 job activity items ranked according to a weighted time score. Further, only 6 specialized library functions are included in this table, while Table 22 (weighted time scores) included 9 such functions. This indicates slight preference toward administrative functions in the importance dimension as compared to the time dimension.

This indication is further strengthened in Appendix Table XI where job activity items are ranked according to weighted importance scores for administrators and non-administrators. For the administrators there appear 4 job items of specialized library function in the top-ranking 25 items, 3 out of these are of the supervisory type, while the

TABLE 23

JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED IMPORTANCE SCORE FOR ALL 365 RESPONDENTS: 1968

Job Item Number	Job Item	Weighted Importance Score	Rank
187.	Directly supervise and guide subordinates	897	1
188.	Assign jobs to subordinates	701	2
98.	Actively answer reference questions	698	3
190.	Train new employees in the performance of their work	649	4
191.	Check the accuracy of work of subordinates	645	5
228.	Interpret library programs to key officials, users, special groups	610	6
206.	Give prompt and full attention to all communications received	596	7
216.	Schedule activities to insure that deadlines are met	589	8
217.	Assign priorities for the completion of work	586	9
193.	Make decisions without consulting others	567	10
199.	Stimulate subordinates toward superior performance and creativity	567	10
96.	Have over-all responsibility for the reference services provided	547	12
197.	Give subordinates authority to command or to act in certain areas	542	13
237.	Attend professional meetings and/or conferences	534	14
194.	Make decisions based on consultations with subordinates	521	15
128.	Integrate library programs with missions of parent organization	512	16
195.	Give orders to initiate, modify or stop activities	512	16
201.	Identify and develop potential in subordinates	511	18
60.	Have over-all responsibility for clientele services	508	19
198.	Review decisions and/or proposals that are made by subordinates	506	20
129.	Establish goals and objectives for the library	494	21
64.	Provide research assistance	491	22
8.	Am responsible for the over-all acquisitions program	480	23
62.	Refer clients to sources of information	476	24
131.	Determine needed programs for the library	475	25

corresponding figure in the time dimension table is 8 of the supervisory type.

Non-administrators also show a tendency in the same direction: 8 administrative items find a place in the list for non-administrators, while in the corresponding table for the time dimension, the number was only 6. Further, supervisory types of specialized library functions are absent as in the corresponding table for the time dimension.

The major job function -- directing -- continues to hold its predominant position in this dimension too. Thirteen items under this job function are included in the list for administrators.

Attention is now directed to a comparison of grade levels relative to the weighted importance factor (Appendix Table XI which is parallel to the weighted time factor presented in Appendix Table XII). For grade 9, 16 specialized library functions out of the 25 top-ranking job items are listed, while for grades 10,11 this figure is reduced to 10, and for grades 12-14, this figure drops to zero, repeating the pattern found for the time dimension. Further, the predominant role of the major function -- directing -- is again evident in this importance dimension also. It is noted again that job item 201[1] is not anywhere in the section of the table reporting on the GS 9 category; it is Rank 22 for the GS 10,11 group; and for the GS 12-14 category, it has moved up to a ranking of 8.

Joint Time/Importance Dimension.

The job items in both the dimensions (time and importance) were analyzed separately, and it was found that the conclusions were similar. The last logical step is to analyze the job-inventory from a perspective that uses both these two dimensions of time and importance. It has already been remarked that in an ideal situation the element of time should be dependent on importance. Further, the nature of the dependence should be such that similar scores should go together, i.e. a job item deemed to be very important should generally take the most time, and, conversely, a job item deemed least important should generally consume very little time in an ideal situation -- which, however, rarely seems to be realized.

However, these ideas have been used to construct a joint time/importance score for a job item. For each of the 223 job items the time score for

[1]Activity Item 201: Identify and develop potential in subordinates

each individual was multiplied by his importance score, and then these scores for each item were added for over-all respondents to arrive at a final joint time/importance score for that job item. This joint time/importance score would measure the over-all contribution of a job item toward the fulfillment of the objectives of the library. Under this scheme, if an individual checked an item, the joint time/importance for that item for that individual could vary from a maximum of 25 to a minimum of 1. (A score of zero is also possible, since a respondent could check the item for one dimension and leave the other dimension blank meaning "no time consumed" or "of no importance" as the case might be.)

Table 24 gives the joint time/importance score for the top-ranking 25 job items. The trend noticed in the time dimension and in the importance dimension is accentuated in this new joint dimension. The number of specialized library functions has dwindled to 4 in this table, and 2 of them hold Ranks 22 and 25. The administrative functions outscore the specialized library functions. This undoubtedly points toward the conclusion that in the minds of these respondents, administration contributes enormously toward the efficient realization of the library's mission and programs. Within the administrative function, the area of directing holds the most predominant position. In order to substantiate this conclusion, it is necessary to look at the joint time/importance score for an item for administrators and non-administrators separately, and for the three different grade levels as has been done in the case of the two dimensions of time and importance separately. These tables are presented in Appendix Tables XIII and XIV.

Administrators show the same characteristics in their joint time/importance dimension as in the time and importance dimensions separately. The few specialized library functions included by them in the top-ranking job items are almost all of the supervisory type. This points toward the conclusion that administrators, when they are engaged in specialized library functions, mostly confine themselves to an over-all supervision and responsibility rather than actual performance of the job activities that constitute the specialized library functions.

On the other hand, the non-administrators confine themselves to a great extent to proper specialized library functions. It would not be out of place to mention here how valuable this dichotomy of librarians into administrators and non-administrators has been for the study of the job inventory. Otherwise, simply because administrators outnumber the non-administrators by nearly 100 in this study, it would have been difficult to appreciate from the statistical presentation alone, the importance of the specialized library function as well, toward the

TABLE 24

JOB ACTIVITY ITEMS RANKED ACCORDING TO JOINT TIME/ IMPORTANCE WEIGHTED SCORE FOR ALL 365 RESPONDENTS: 1968

Job Item Number	Job Item	Weighted Time/Importance Score	Rank
187.	Directly supervise and guide subordinates	3635	1
188.	Assign jobs to subordinates	2937	2
98.	Actively answer reference questions	2909	3
191.	Check the accuracy of work of subordinates	2612	4
228.	Interpret library programs to key officials, users, special groups	2584	5
190.	Train new employees in the performance of their work	2570	6
216.	Schedule activities to insure that deadlines are met	2528	7
237.	Attend professional meetings and/or conferences	2431	8
217.	Assign priorities for the completion of work	2414	9
199.	Stimulate subordinates toward superior performance and creativity	2373	10
206.	Give prompt and full attention to all communications received	2328	11
193.	Make decisions without consulting others	2311	12
197.	Give subordinates authority to command or to act in certain areas	2290	13
96.	Have over-all responsibility for the reference services provided	2276	14
195.	Give orders to initiate, modify, or stop activities	2209	15
60.	Have over-all responsibility for clientele services	2183	16
201.	Identify and develop potential in subordinates	2171	17
194.	Make decisions based on consultation with subordinates	2146	18
128.	Integrate library programs with missions of parent organization	2102	19
198.	Review decisions and/or proposals that are made by subordinates	2082	20
129.	Establish goals and objectives for the library	2067	21
64.	Provide research assistance	2045	22
166.	Select personnel	2035	23
192.	Brief subordinates on immediate and continuing library programs	1994	24
62.	Refer clients to sources of information	1954	25
	Mean	926.72*	
	Standard Deviation	723.19	

*This statistic was calculated for all the 228 job items.

fulfillment of the objectives of Federal libraries.

It has already been noticed while studying the job inventory in the time dimension, as well as in the importance dimension, how administrative functions displace the specialized library function as the grades move up. The same feature is repeated here in this dimension of joint time/importance, and this inescapably points toward the association that exists between high grades and administrative job items in this profession. It is interesting to note that supervisory types of specialized library functions, though holding important ranks in grade 9, lag behind as the grades move up, and at the highest grade level even these supervisory types of specialized library functions are completely eliminated from the 25 top-ranking job items.

Time and Importance Dimensions Relative to Major Job Functions.

So far, the study of the job inventory has been made with the job item as the unit. However, since the ultimate objective of this study is curriculum and course building, and since courses are not just a conglomeration of heterogeneous job items, it is necessary that this job inventory be further studied with homogeneous units larger than single job items.

This was the purpose behind grouping the job items in Part I of the questionnaire under 21 major job functions: 13 listed specialized library functions and 8 listed administrative functions.

It is apparent that if the joint time/importance scores of all of the job items constituting a major job function are added up, this would be a valid joint time/importance score for the major job functions as a whole.

Table 25 lists the major functions with the number of job items constituting them, and the joint time/importance score for Administrators, Non-Administrators and All Together. The 3 rankings are also given there. Standing alone, this table would seem to indicate that if this data was the sole criteria for deciding the area in which courses are needed, that Directing and Planning in Group B and Classification in Group A would eertainly merit priority consideration.

Joint Time (Reversed)/Importance Dimension.

If the purpose of this study were simply to analyze the job activities of Federal librarians, it would be proper to conclude this section now; however, the main objective of this survey is to build courses and curriculum for librarians at the post-MLS level using information obtained from on-the-job needs of the librarians and certain other factors. With this objective in mind, the dimension of joint time/

TABLE 25

MAJOR JOB FUNCTIONS RANKED ACCORDING TO RELATIVE TIME/IMPORTANCE WEIGHTED SCORE BY TYPE OF POSITION: 1968

Major Job Functions	Number of Job Items	Administrative		Non-Administrative		All Together	
		Joint Time/ Importance Score	Rank	Joint Time/ Importance Score	Rank	Joint Time/ Importance Score	Rank
GROUP A							
Abstracting	07	187	21	171	18	358	20
Acquisitions	15	7,577	7	430	11	8,007	7
Bibliography	06	2,576	16	1,093	6	3,669	14
Cataloging and Classification	21	8,063	6	4,003	1	12,066	3
Circulation	10	2,743	15	306	14	3,049	16
Clientele Services	08	5,628	8	2,120	3	7,748	8
Indexing	09	735	19	490	10	1,225	19
Literature Searching	09	1.334	17	947	8	2,281	17
Maintenance of Holdings	10	3,116	14	268	15	3,384	15
Reference	07	4,950	11	1,853	4	6,803	9
Research	05	888	18	368	13	1,256	18
Selection	14	8,558	4	1,495	5	10,053	5
Translation	06	192	20	100	20	292	21
GROUP B							
Planning	23	15,117	2	1,002	7	16,119	2
Organizing	12	5,103	10	104	19	5,207	11
Staffing	24	9,840	3	246	17	10,086	4
Directing	22	23,789	1	2,144	2	25,933	1
Coordinating	06	3,586	13	425	12	4,011	13
Controlling	13	8,257	5	264	16	8,521	6
Representing	11	5,299	9	582	9	5,881	10
Housing	06	4,293	12	30	21	4,323	12

importance is once more examined.

This score has rated an item or a major job function high if the scores are high in both the time and importance dimension separately. Should this be the only criterion for studying the job inventory in order to help reach a decision on courses and course content? Does this really reflect the true existing situation from a pedagogic point of view? The librarians are working in a library, and they have different types of activities to perform -- some important, some not so important -- and they devote various amounts of time to the performance of these jobs. As time goes on, the demands for service change as do the natures of the jobs themselves, and a gap develops between knowledge learned in academic institutions last attended and skill necessary to perform new job activities efficiently. It would seem essential that at this stage, the librarian go back to the academic world to acquire an overlay, which will give him a solid grasp not only of new societal, technological, and environmental factors, but of administrative skills and processes as well.

However, the importance of on-the-job training must also be remembered, and this helps also to bridge this gap. But some kinds of skills and concepts are very difficult to teach on the job. Accordingly, it would seem that curriculum builders at the postgraduate level should pay special attention to the job items which are deemed important, but consume very little time, since the gap is expected to be widest for performing these job items efficiently. This gives the clue toward the formulation of a new dimension that will open up a new perspective aiding the curriculum builders. Accordingly, it was decided to calculate a new score for these job items by first reversing the time scale and then multiplying the importance score by the new time-reversed score. That is to say, an item consuming the least time should get a score of 5 and vice versa. This score will then possess the necessary property, namely that an item deemed important but consuming very little time would get the maximum score of 25 while an item deemed least important and consuming the most time would get the minimum score of 1. It was decided to call this score joint time (reversed)/importance score.

Table 26 gives the 25 top-ranking job items based on this scale. Comparing this table with Table 24 it is seen that 21 of the 25 job items are common to both these tables. The close agreement between these two dimensions further strengthens the validity of the method of this study.

The reduction of the joint time (reversed)/importance score as compared to joint time/importance score indicates a tendency of time and importance to move together. In his study of executive work in the Federal

TABLE 26

JOB ACTIVITY ITEMS RANKED ACCORDING TO JOINT TIME (REVERSED)*/ IMPORTANCE WEIGHTED SCORE FOR ALL 365 RESPONDENTS: 1968

Job Item Number	Job Item	Weighted Time (Reversed)*/ Importance Score	Rank
187.	Directly supervise and guide subordinates	1711	1
190.	Train new employees in the performance of their work	1306	2
98.	Actively answer reference questions	1261	3
191.	Check the accuracy of work of subordinates	1240	4
188.	Assign jobs to subordinates	1233	5
206.	Give prompt and full attention to all communications received	1212	6
217.	Assign priorities for the completion of work	1066	7
228.	Interpret library programs to key officials, users, special groups	1064	8
8.	Am responsible for the over-all acquisitions program	1045	9
193.	Make decisions without consulting others	1031	10
199.	Stimulate subordinates toward superior performance and creativity	1005	11
96.	Have over-all responsibility for the reference services provided	1000	12
216.	Schedule activities to insure that deadlines are met	1000	12
194.	Make decisions based on consultation with subordinates	974	14
128.	Integrate library programs with missions of parent organization	958	15
197.	Give subordinates authority to command or to act in certain areas	926	16
198.	Review decisions and/or proposals that are made by subordinates	918	17
131.	Determine needed programs for the library	911	18
142.	Help develop new programs and/or activities	880	19
62.	Refer clients to sources of information	878	20
64.	Provide research assistance	865	21
60.	Have over-all responsibility for clientele services	859	22

Table 26 Page 2

Job Item Number	Job Item	Weighted Time (Reversed)*/ Importance Score	Rank
201.	Identify and develop potential in subordinates	859	22
213.	Anticipate problems and prevent their occurrence through continuous interchange of information and early and direct contact of all involved	859	22
195.	Give orders to initiate, modify, or stop activities	857	24
	Mean	384.08**	
	Standard Deviation	315.56	

*The rationale for reversing the time score is for purposes of training: a highly important task which is seldom performed usually requires more emphasis in training than a highly important task which is performed constantly, as in the latter situation there is much more chance for learning on the job.

**This statistic was calculated for all the 223 job items.

service, Curnow (Ref. 2: 80-81) also reported this tendency of time and importance to move together and concluded that there was some positive relationship between time and importance.

Table 27 gives the joint time (reversed)/importance score for the 21 major functions, the counterpart of Table 25 in this joint time (reversed)/ importance dimension. The rankings obtained in this dimension corroborate the conclusion drawn from Table 25 regarding the comparative importance of the major job functions, namely directing, planning and cataloging and classification from the point of view of curriculum building at the post-MLS stage.

Conclusions.

As discussed in the opening remarks of this section, time and importance are hypothetical measures, but they provide needed substantiation to give confidence to decision-making relative to the determination of courses offered, course objectives, course content, and level of instruction. All of the data presented thus far is based on the opinion of the job incumbent. An additional rationale for deciding the content and level of a post-MLS program is to seek the judgments of supervisors of the types of positions represented in this survey, and this type of collaborative data is presented in Chapter 7.

From this analysis the question arises: "How much of the knowledge required to perform the chief librarian's job, or the assistant chief librarian's job, is 'specialized'?" As the study indicates, the duties performed by the administrators are largely managerial in nature rather than of a specialized library nature, but how much of the knowledge required to perform these managerial functions effectively is "specialized" in its very nature? This question would seem especially important at a time when some observers outside of libraries are saying that administrative jobs in the library could be performed much better by those trained in business or public administration, rather than librarianship. (Ref. Carson, 1)

In a study of hospital administrators, Underwood (Ref. 6) concludes that it is not enough for the hospital director to be skilled in the general aspects of management and communication; he must have a general awareness of motivations, inter-group relations, responsibilities and techniques of that specific professional group. He found that while less than 20 per cent of the duties performed by the hospital administrator represented specialized hospital functions, over half of the knowledge required to perform effectively in an administrative capacity in a hospital is "specialized" in its nature. Does the same hold true for library administrators? If it does, it would be a strong argument for post-MLS courses being based in the graduate library school.

TABLE 27

MAJOR JOB FUNCTIONS RANKED ACCORDING TO RELATIVE TIME (REVERSED)*/IMPORTANCE WEIGHTED SCORE BY TYPE OF POSITION: 1968

Major Job Functions	Number of Job Items	Administrative		Non-Administrative		All Together	
		Joint Time (Reversed)/ Importance Score	Rank	Joint Time (Reversed)/ Importance Score	Rank	Joint Time (Reversed)/ Importance Score	Rank
GROUP A							
Abstracting	07	167	20	111	18	278	20
Acquisitions	15	4,793	6	318	11	5,111	7
Bibliography	06	1,312	16	561	8	1,873	16
Cataloging and Classification	21	4,739	7	1,935	1	6,674	4
Circulation	10	1,787	15	222	15	2,009	15
Clientele Services	08	3,164	10	1,260	3	4,424	8
Indexing	09	395	19	270	12	665	19
Literature Searching	09	814	17	587	7	1,401	17
Maintenance of Holdings	10	2,180	14	204	17	2,384	14
Reference	07	2,810	12	809	5	3,619	11
Research	05	516	18	220	16	736	18
Selection	14	5,458	5	1,135	4	6,593	5
Translation	06	112	21	100	20	212	21
GROUP B							
Planning	23	10,197	2	682	6	10,879	2
Organizing	12	4,019	8	104	19	4,123	9
Staffing	24	7,740	3	226	14	7,966	3
Directing	22	16,657	1	1,900	2	18,557	1
Coordinating	06	2,566	13	345	10	2,911	13
Controlling	13	6,029	4	244	13	6,273	6
Representing	11	3,639	9	442	9	4,081	10
Housing	06	2,917	11	30	21	2,947	12

QUALITATIVE ANALYSIS OF JOB ACTIVITIES

Up to this point in the discussion there has been only a quantitative analysis of the job activities in relation to time and importance, but there has been no attempt to assess the quality of the work that was associated with the individual job items. Now, however, is the time to take a step in the direction of qualitative analysis. As it is not possible to analyze qualitatively the whole gamut of the job activities, it was decided that only the two ends of the spectrum be analyzed as the curriculum builder must always have his eye on these ends.

With this objective in mind, respondents were asked to indicate which three of the activities which constitute an integral part of their job they felt they performed with the greatest competence, and to indicate why they had achieved the greatest competence in these. Further, they were asked which job activities they performed with the least competence and why they felt they had achieved little competence in these areas. (Part III of the questionnaire, questions 72 through 77).

Frequency of Response.

Considering the nature of the question there was a high rate of response to these six questions. The question asked about greatest competence was answered by 84.3 per cent (308) of the 365 respondents in the study; 68.8 per cent (251) listed a second greatest competence; and 55.9 per cent (204) gave a third greatest competence. As might be expected, there were fewer respondents who filled in the questions pertaining to least competencies; 73.2 per cent (267) gave their least competence; 42.2 per cent (154) their area of lesser competence, and 32.6 per cent (119) listed an area of little competence. Respondents' answers were reviewed, analyzed, and classified into major categories. Because the answers were free response, the categories used for listing their competencies do not always correspond to the categories used in the printed job inventory in the questionnaire.

It is interesting to note that in each case, about the same percentage of administrators and non-administrators answered the questions regarding greatest and least competencies as was the percentage of administrators vs. non-administrators in the total number of 365 respondents.

Areas of Greatest Competencies.

When the single greatest competence (question 72) is tallied alone the following results are noted: cataloging and classification (62 respondents) and reference (70 respondents). This probably reflects the fact that there are more respondents specializing in cataloging and reference than

any other type of library service. In the area of administrative functions, administration received the highest number of checks (30), and planning the second highest (16).

When the "three greatest competencies" (questions 72, 73, and 74) are all grouped together, the totals are as follows:

Library Functions		
1.	Reference	138
2.	Cataloging and Classification	109
3.	Clientele Services	53
4.	Selection	50
Administrative Functions		
1.	Personnel	70
2.	Administration	69
3.	Representing	51
4.	Planning	48

Areas of Greatest Weaknesses.

When the single greatest weakness (question 75) is tallied alone, the following results are found: reference (35 respondents), cataloging and classification (32 respondents), and automation (25 respondents); under administrative functions, personnel administration (34 respondents), representing (21 respondents) and planning (17 respondents) received the largest number of listings.

However, when the "three least competencies" (questions 75, 76, and 77) are all grouped together, the totals are as follows:

Library Functions		
1.	Reference	72
2.	Automation	61
3.	Cataloging and Classification	57
Administrative Functions		
1.	Personnel	65
2.	Representing	43
3.	Planning	37
4.	Administration	32

Reasons for Greatest and Least Competencies: Overall.

The question also asked why the respondent felt he had competence or lack of it in these areas, and these responses proved to reveal a much

more interesting pattern than the frequency distribution of the areas themselves. The reasons for competence in both library functions and administrative functions are training and personal like or interest in the area.

However, when one studies the reasons for lack of competency, it is seen that for administrative functions, the factor of personal dislike or personality traits in relation to administrative functions stays high in frequency of times mentioned, while in the specialized library functions, the factor of personal dislike or lack of ability drops to almost zero. This would seem to indicate that the respondents answering this question entered librarianship with little attraction to administrative functions, and that this type of function is particularly difficult for them because they have a personal dislike for this activity. This relates to the answers found in the open-end question concerning most important qualities for replacement, in which it was found that present incumbents rated personal traits very highly. It also indicates that for many people, the ideal is not to progress along administrative lines, and that provision should be made for advancement in library positions for those who by personal characteristics are not adept, or who simply do not like the tasks of administration. This would seem to be an indication of the importance of providing for the development of a rationale leading to different career progressions in librarianship. This has been strongly emphasized by Warncke (Ref. 7). Thus a librarian should be able to advance upward in the profession whether he chooses to pursue his career in bibliographic services or guidance, just as much as for the librarian who wishes to advance to administrative positions.

Lack of training remains consistently high in all the ratings for lack of competence, at each degree, for both library functions and administrative functions.

The analysis of the reasons why respondents felt adequate or inadequate in certain areas also provides insight into the degree to which his job provides possibilities of self-expression for the librarian. It has been found in recent research in the behavioral sciences, that a person tends to be highly motivated if he has an opportunity in his job to develop to his highest potential. If a librarian is forced into an administrative position (because this is the only one of advancement in many instances), but he has a personal dislike for and lack of ability in this area, he will not be highly motivated, because he realizes within himself that this is not an avenue that will lead to his making the fullest use of his talents, because his abilities lie in other areas.

It should also be noted that those who listed lack of competency in reference included 24 who stated that this was due to lack of training in

a given subject area. In the answer to the greatest lack of competence, 14 said this lack was due to lack of training in a subject area, and 7 said it was due to lack of reference training. Under "little competence", this ratio was reversed,and 10 said the lack was due to lack of reference training, while 6 said it was due to lack of training in a specific subject area outside of library science.

Analysis of Automation as Greatest Strength and Greatest Weakness.

As it will be evident in later chapters that automation turned out to be of special concern in this study, data from those questions dealing with greatest and least competence in automation are singled out for special analysis.

First to review the frequency responses as they relate to automation:

72. I feel greatest competence	2	
73. My next greatest competence	4	Total - 9 people
74. My third greatest competence	3	

Thus out of the 365 respondents only 9 feel their greatest competence is in the area of automation. (There were actually 11 checks for these 9 people, as 2 listed automation twice in checking this section).

However, 59 listed it as one of their 3 least competencies (actually there were 61 listings, as 2 people listed it twice).

75. I feel least competent in..	25	
76. I am not very competent either in..	21	Total - 59 people
77. Also, I am not as competence in..	13	

Those with the Greatest Competence in Automation. The comments of those listing automation as their greatest competence are quoted here. In the categorization in the charts later in this section, training and experience are listed together, but here for more precise analysis they are listed separately, with experience predominating. Thus 7 reasons listed are in the area of experience; 1 in training; and 1 in training and experience combined.

Experience Cited as Main Reason. (7) --
In my last several years, most of my experience has been in information retrieval, also most of my reading. (72)

Information retrieval -- through trial and error experience. (73)

Information retrieval, which I have learned through experience with an automated system. (73)

Using automation in thesaurus building, because of constructing the first Medical Subject Heading List. (72)

Information retrieval through trial and error experience. (73)

Because I have had experience in applying data processing in three different libraries. (74)

Experience on the job. (73)

Training Cited as Main Reason. (1) --
Developing systems for storage and retrieval, because I had good courses in advanced classification and cataloging. (74)

Training and Experience Cited. (1) --
Because of my training in symbolic logic and excellent electronic data processing course plus excellent on-the-job training. (74)

Seven of the nine checked the question that they were involved at an administrative or supervisory level in applying automation. All were in libraries where at least some function was automated.

Those with the Least Competence in Automation. Statements made explaining least competence are listed here to give a more thorough comprehension of why this condition existed. Again, the larger heading used in the major charts accompanying this section "Training and Experience" is broken down, and training and experience are listed separately. Some responses which seemed to express especially the feeling of the whole group when read together are marked with an asterisk. The number of reasons is indicated under each major category (lack of training and/or lack of knowledge; lack of experience and training; lack of experience; and lack of interest and/or ability), but duplicate responses have to a large extent been eliminated.

Lack of Sufficient Training and/or Lack of Knowledge. (26)
*I took a course in computer programming for information storage and retrieval, but it was not applicable to library operations. (75)

I have had no training in information theory based on linguistics and math. (75)

I have no courses; I need them. (75)

I have had no training; what I have learned has been on the job. (75)

Have had no training, but now learning and am in training phase concerning computer applications of my job. (75)

I have had no training, but my work does not involve association with computer. (75)

*Planning for the future; I am unfamiliar with automation terminology, capabilities. (75)

*Lack knowledge, and it is not clear just how much of our information can be automated, and which would be the most efficient method. (77)

I have no academic study; only surface acquaintance with principles involved; no knowledge of computer theory. (77)

*The sophistication of the systems with which I deal surpasses the one course I have been able to take. (76)

*No opportunity for training, but I need and want training to use innovations. (76)

*Not touched on when I was in school. (76)

*I feel I can't plan for the future as I have no knowledge in information science and automation. (76)

*I don't understand, and everyone seems to be going off in different directions. (75)

Lack of Experience and Training. (13)

*Have not taken courses. Our library is not automated, so no experience, but I feel I must learn as much as I can in preparation for automation. (75)

I have had no experience and little training. (75)

I have a weak background, and it is not used in my library. (75)

I have no chance to use in my library, and no opportunity to learn possibilities. (75)

*I lack knowledge. Automation has not reached our library yet; however, new complex is planned and "tempus fugit". (77)

It is not used in my library, and I lack understanding of how and why used. (77)

Lack of Experience. (11) --

*My library is so small, don't know about from experience -- only hear about. (76)

*Have no experience, but it seems to be the coming thing. (76)

*Lack of practice -- so much is new; one needs to participate to understand. (77)

Lack of Interest and/or Ability. (9)--

My interest has not been great in this area, and I am not involved in it in my work. (76)

It is foreign to my thinking -- maybe I have a mental block. (75)

I don't understand machines. (75)

I am unmechanical and shy away from all types of machines. (77)

I lack motivation to pursue this whole area; also lack of time. (75)

I lack ability in this area. (75)

I do not grasp the concept easily; I tend to be more of a "traditional" librarian. (77)

I do not care to be involved; only want enough basic knowledge to use as a tool, rather than an end. (76)

I lack interest, as well as knowledge. (76)

Conclusions. These facts seem to stand out from this analysis:

(1) Very few of the respondents (2.5 per cent) feel that their greatest competence is in automation.

(2) The chief reason given for competency is experience on the job. Of those who feel their greatest competence is in automation, 89 per cent express a desire to take courses.

(3) Of the respondents, 16.2 per cent list automation as one of their greatest weaknesses.

(4) The chief reason given for little competency is lack of training or knowledge.

On the basis of this analysis, several generalizations can be made from this cross section of the respondents' reactions to automation:

-- Unlike the other activities listed in this section, automation is the only function which ranked in the list of greatest weaknesses which did not also rank in the list of greatest competencies (see page 110). However, from these comments that are presented, it is apparent that the respondents look at automation differently as compared to the other functions on the list of greatest competencies and greatest weaknesses. They listed entirely different causes for weakness in this area than for any of the others. When the respondents discuss automation there seems to be a psychological element involved. These individuals did not need automation immediately, many of them, but as one respondent put it:"Automation is coming, and 'tempus fugit'."

-- The situation seems to be that although they are not engaged in automation at the moment in their jobs, even then there is a feeling of incompetency. This is obviously partly due to the fear that automation will soon be reaching their sphere of work, and partly, it is a phenomenon related to societal changes at the present time, which almost seems to induce a sense of guilt if one is not in the main stream of technological progress.

-- These findings would seem to have important implications not only for the post-MLS program, but for the MLS basic required program as well. And, consequently, in the long-range view, changes at the MLS level will have direct implications on the scope and depth of material offered at the post-MLS program in the future as well.

CONTENT ANALYSIS OF OPEN-END QUESTIONS ON JOB ACTIVITIES

In the last section of the questionnaire, Part IV, the respondents were invited to make suggestions which might contribute to the better understanding of their jobs and throw more light on this area as a whole. (Questionnaire, Part IV, question 1, page 13) The following directive was used:

> "In spite of the number of job activities listed, it is very possible that there are others which we have overlooked that you may wish to add. Also any comments you have about the statements as listed would be welcome."

Over-all, 75 comments were made: 53 by administrators (of whom 26

were heads of libraries) and 22 by non-administrators. Respondents' answers were reviewed, analyzed, and classified into six major headings: non-professional duties performed as part of their jobs; government regulations; comments on the manner in which job items had been listed in the questionnaire; clarification of items they had checked; general suggestions to the government relative to job activities; and miscellaneous comments on duties.

The items that were commented on most heavily were explanations of the items they had checked (27 comments) and comments about the non-professional duties (15). Typical examples of comments given in each of these sections follow.

Comments on Open-End Questions.

Non-Professional Duties. Fifteen responses in this section centered on the non-professional job activities which were expected of professional librarians and the resultant waste of librarians' talents. Some typical comments have been paraphrased below:

> Our three-man cataloging department contains no clerical personnel. Hence, all of us, including the supervisor, spend entirely too much time in clerical detail. The position would be better filled by clerical personnel. Then the professional position could be moved to Reader Services which needs more personnel to offer more comprehensive research and reference service to our clientele. (Cataloger)
>
> It is ridiculous for an administrative librarian to be bogged down with clerical duties -- serving the public is the big job, and we should not be overwhelmed with clerical detail. (Head librarian)
>
> I resent being used as a supply clerk. Too many man hours are wasted with clerical picayunes. (Documents librarian)
>
> Our talents are wasted and split in a hundred directions by wasted time on non-important things that cannot be let go, but could better be performed by technicians, such as getting the place clean, covering for absentee clerks, reading shelves, opening mail, shifting books, charging materials, filing and typing cards. (Head librarian)

Duties Involving Government Regulations. Seven respondents wrote of the effect of government regulations on the library. A sampling of such comments are the following:

Some allusions should be made to the hampering effect of government regulations of library management and efficiency. (Head librarian)

The greatest part of my work is a question of interpreting government regulations rather than doing library work. (Library administrator)

Many problems and peculiarities in my job arise solely from the need to conform to government regulations. The library sinks or swims according to the librarian's ability to make the best use of the facilities at hand and the ability to conform to existing regulations. (Head librarian)

Miscellaneous Comments on Duties. Four comments related to miscellaneous statements explaining job activities checked or not checked: (1) centralized cataloging performed for total program; (2)cooperation involved in sharing unique library materials, automation networks, and extension services; (3) large amount of time spent in maintaining vertical file of pamphlets, newspaper clippings, magazine articles; (4) large amount of time spent in deciding which documents are of historical value and should be kept.

Comments on Job Items. Thirteen comments were made on the listing of job items.

Part B is an excellent breakdown of administrative work. I am making a copy to be used in rewriting job descriptions. (Library administrator)

This is a very comprehensive study. It points out for me where I spend excessive amounts of time less productively and less profitably. (Head librarian)

Excellent listing. You seem to have listed as many job activities as I can think of -- plus quite a few more. (Library administrator)

Typical comments pointing out respondents' difficulties in checking job items were:

I have found it difficult to grade the time and importance factors accurately -- too subjective. (Bibliographer)

This is a rather difficult questionnaire for a small library operation or one-man library to answer because of the overlap

in administrat.ve and actual job activities. (Head librarian)

As a programmer, I do some job activities which are not listed. (Systems analyst)

Additional Comments. Twenty-seven additional comments were made by respondents. Of these, twenty-one offer more detail about the job activities they checked, but offer no more information about different items that might have been included in the list of job activities. Six respondents wanted the research team to be aware that they were serving as interns and were not yet established in permanent jobs.

Miscellaneous Suggestions to the Government about Job Activities. Nine respondents directed suggestions to the government about job activities. These ideas have been paraphrased to cover the different ideas expressed as follows:

Young clericals who show interest should be given aptitude tests so they could qualify for grades 5 to 9 and do much of the technical work in the library now done by professionals. Simple courses should be offered on government time to enable them to move up this way, including the intricacies of government paper work. (Bibliographer)

More elasticity in classification is needed to make provision for growth of personnel in jobs. Job re-evaluation should not require so much red tape. (Head librarian)

There is a great need for managers to spend more time communicating with agency personnel outside the library, especially those concerned with budgeting, graphic presentations, report presentation, personnel. Librarians tend to talk too much only to themselves. (Library administrator)

There is not time to stop and analyze what we are doing day by day. The adoption of standardized procedures and routines (with flow charts) for sub-professional workers in the areas of charging systems and cataloging should make for more efficiency. These procedures would be developed by the library schools. (Library administrator)

SUMMARY AND CONCLUSIONS

Quantitative Analysis of the Job Inventory.

The highlights helpful for curriculum construction of the quantitative analysis of the job inventory are itemized briefly in this section.

(1) Not only did the administrators check almost seven times as many administrative functions as did the non-administrators, but they checked twice as many non-administrative specialized job items. Also, in each instance the standard deviation for administrators is larger than the standard deviation for non-administrators, which means that there is a greater variation in job items performed among administrators than non-administrators. Further, the range of tasks performed was always larger for the administrators. In addition, it was found that the median shows a pattern: namely, that the median goes down as the grade increases for the specialized library functions, but the median goes up for administrative functions as the grades increase. These statistics might be an indication that because of shortage of staff, small size of the library, or for other reasons, the administrators are spending a considerable amount of time operating at a non-administrative level. Awareness of this condition should have implications for course content as well as over-all curriculum construction.

(2) From the analysis of the time dimension in relation to the job activities, it was found that as the respondents move up in grade the time devoted to administrative functions increases and that devoted to specialized library functions decreases. This condition is in accord with the hypothesis of Corson that as one rises in the Federal service one assumes many administrative and management tasks for which he has not been prepared in his basic professional training. For this reason it seems essential to obtain an overlay of training in administrative skills. Administrators spend more time on directing than on any other job function; an important fact for curriculum builders.

(3) Turning to the dimension of importance, it was found that the number of respondents checking the importance factor for each item was generally the same as the number checking the time factor. Item 187, "Directly supervise and guide subordinates," ranked first according to the weighted importance score, even as it had for the weighted time score. There was even a slightly higher tendency toward administrative functions in the importance dimension than in the time dimension. The process of directing held a predominant position within the dimension of importance, which further emphasized

the necessity for special attention to management skills in any post-master's program planned for practicing administrators of libraries.

(4) When a joint time/importance score was constructed for job items in order to measure the total contribution of job activities toward the fulfillment of the objectives of the library, there was shown an even greater displacement of the specialized library functions by the administrators as the grades moved upward.

(5) When the job items were grouped according to the 21 major job functions under which the individual job activities were listed in the questionnaire, directing ranked first by a total joint time/importance weighted score of 25,933 as compared to a score of 16,119 for planning which received the second highest rating. The fact that planning did rank second in this type of analysis, however, does indicate that this is an area that should receive the attention of curriculum builders at the post-master's level. With the current emphasis inside the Federal government on the new techniques of program planning and budgeting, this would seem worthy of integration into post-MLS courses now.

(6) Through the construction of a joint time (reversed)/importance score, the conclusion was reached that the dimensions of time and importance have a tendency to move together, and and that there is some evidence of a positive relationship between time and importance.

(7) The quantitative data in this section indicates that the duties performed by the administrators are largely managerial in nature rather than of a specialized library nature. The knowledge required to perform these managerial functions effectively in an administrative capacity in a library is technically "specialized" in its nature. If the library administrator must have an awareness of the motivations, responsibilities and inter-group relations specific to the library profession, this would present a strong argument for the post-master's program to be based in the graduate library school rather than in other departments of the university. This important question is discussed further in Chapter VII, which reports on the interviews with supervisory personnel.

Qualitative Analysis of Job Activities.

As it was not possible to analyze qualitatively the whole range of job activities, only two ends of the spectrum were examined.

In answering the question as to their greatest competencies, the respondents gave top place to reference services and cataloging and

classification among the specialized library functions. In the administrative category, personnel work was first, and administration second. The areas listed as those of greatest weakness were very similar. For the library functions they were reference, automation, and cataloging and classification; for the administrative functions, personnel administration, representing, and planning.

The reasons given for the greatest competencies and the greatest weaknesses presented evidence that the respondents felt the need for different career progressions in librarianship, that the only line of advancement should not be that of administration. Thus a librarian should be able to advance upward in the profession if he chooses to pursue his career in bibliographic services or reader's services rather than advance from a technical speciality to an administrative position.

To the curriculum builder, the data in this section provides a reasoned explanation for different areas of specialization at the post-master's level and tends to support the premise that there should be a differentiated program to serve the needs of the individual librarian. It would also provide evidence that one school's program could not hope to meet the demands of all those wishing a post-master's education, but that different schools might better specialize their programs.

A more detailed analysis was done of those who listed automation as the area of their greatest strength or greatest weakness. It was found that the respondents (only 2.5 per cent) who felt that their greatest competence was in automation listed experience on the job as the reason for their competence.

On the other hand, 16.2 per cent of the respondents listed automation as one of their greatest weaknesses, and gave the reason for little competency as lack of training or knowledge.

Comments on Open-End Questions.

In this section, the open-end comments that pertained to the job inventory were reviewed and summarized. Perhaps the most important conclusions that can be drawn from this group of responses are:

-- Generally the respondents thought the coverage of items in the job inventory was quite adequate. In similar studies in other disciplines, usually some response is obtained criticizing the job inventory approach itself, but none of the respondents commented negatively on this as a method of approach to curriculum building, and many commented favorably.

-- The respondents were very discouraged by the large amount of clerical and sub-professional duties they were performing; and this, as will be seen as the study progresses, has been reflected in nearly every section of the questionnaire. The respondents pleaded for an answer from the library schools.

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CHAPTER V

RESEARCH FINDINGS: THE DEMAND FOR COURSES AT THE POST-MASTER'S LEVEL AND ITS RELATIONSHIP TO JOB-RELATED VARIABLES AND THE CHARACTERISTICS OF FEDERAL LIBRARIANS

This chapter presents the data that the respondents supplied concerning their needs among the specific courses listed in Part II of the questionnaire as well as their free response suggestions regarding individual course offerings at the post-master's level. The chapter also includes an analysis of this demand for individual courses in relation to job-related variables and variables relative to the background characteristics of the Federal librarians.

DEMAND FOR COURSES AND WORKSHOPS AT THE POST-MASTER'S LEVEL

Background.

Established course and curricular guidelines for library education at the post-master's level are lacking, yet as Fryden (Ref. 1 :1) points out, the demands for librarians with some training beyond that obtained in the fifth-year master's program is greater now than ever before. In Fryden's report on the eleven American library schools accredited by the American Library Association offering a sixth-year post-MLS program, there is abundant evidence that differing philosophies, objectives, standards, program content, and requirements of these programs have produced as many variations of the programs as there are schools offering them. The question arises, and indeed is asked by Fryden, "On what base do these programs build?" (Ref. 1:26)

For a data base beyond that provided by the job inventory, a section of the questionnaire (Part II, Items 1 through 95) was designed to obtain information from practicing librarians as to their course needs and interests as an indication of what courses the respondents would be motivated to take if they were offered to them. Practically, it must be remembered that at the post-master's level, whether students enroll or not is strictly a matter of personal choice, for at this point in time, the profession has set the MLS degree as the requirement for entry into librarianship at the professional level, but beyond that there are no criteria established; the choice of courses at this level is strictly determined by the interest and demand of the practicing librarians themselves. Therefore, to build courses in a vacuum without relationship to the actual expressed demands of practicing librarians would seem to be more of an intellectual exercise rather than a realistic approach to meet the on-the-job needs in the profession.

Objectives.

The purposes of the course listings in Part II of the questionnaire entitled "Your Educational Needs," were fourfold:

(1) To identify those courses which practicing Federal librarians are most interested in studying at the post-master's level;

(2) To identify four degrees of interest in courses: namely, whether the respondent is chiefly interested in a workshop, a "course now", a "course later" (identified in the questionnaire as three to five years from now), or no interest in taking a given course at all;

(3) To isolate and analyze selected relevant variables and measure their relationship to variables analyzed in other parts of the study;

(4) To yield data which would permit comparative assessments of course needs to be made in interviews with top-level library personnel of the chief types of librarians presented among the respondents.

Data Analysis.

Applicability of the Instrument.. The analyses were made according to the demand for courses under three headings: "workshop", "course now", "course later", and also under a fourth -- "course now or later"--; as the research staff felt that the designation "now or later", meaning a combination of now and/or later, probably presented a more reliable picture of demand than "course now" or "course later" separately. For the final analysis, to see which courses the respondent ranked the highest over-all, another ranking was made which grouped together all the positive approaches to course work --"workshop, course now or course later".

Appendix Tables XV through XVIII show the frequency distribution of the number of people checking "workshops", "course now", "course later", and "course now or later" categories according to type of position and grade level.

Analysis of these tables along with Table 28 show that 70.1 per cent of the respondents checked one or more courses in the "workshop" category; 63.0 per cent of the respondents checked one or more courses in the category "course now or later"; 50.7 per cent checked one or more courses in the category "course later"; while only 44.7 per cent checked

"course now" for one or more items. This indicates that the most popular type of continuing education in a formal setting for this group of respondents as a whole was the workshop format. This is further indicated by the fact that the mean number of courses checked for "workshops" was 7.8 , as compared to means of 3.7 for "course now", 4.1 for "course later", and 7.5 for "course now or later".

TABLE 28

APPLICABILITY OF COURSES BY TYPE OF POSITION AND GRADE LEVEL (Per Cent Distribution of Respondents Checking One or More by Type of Program):1968

Type of Program	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14	
	(N=230) %	(N=135) %	(N=115) %	(N=140) %	(N=110) %	(N=365) %
Workshop	74.35	62.96	62.61	74.29	70.91	70.14
Course Now	43.47	46.67	40.87	49.29	42.73	44.66
Course Later	49.57	52.59	59.13	48.57	44.55	50.68
Course Now or Later	60.43	67.41	70.43	60.00	59.09	63.01

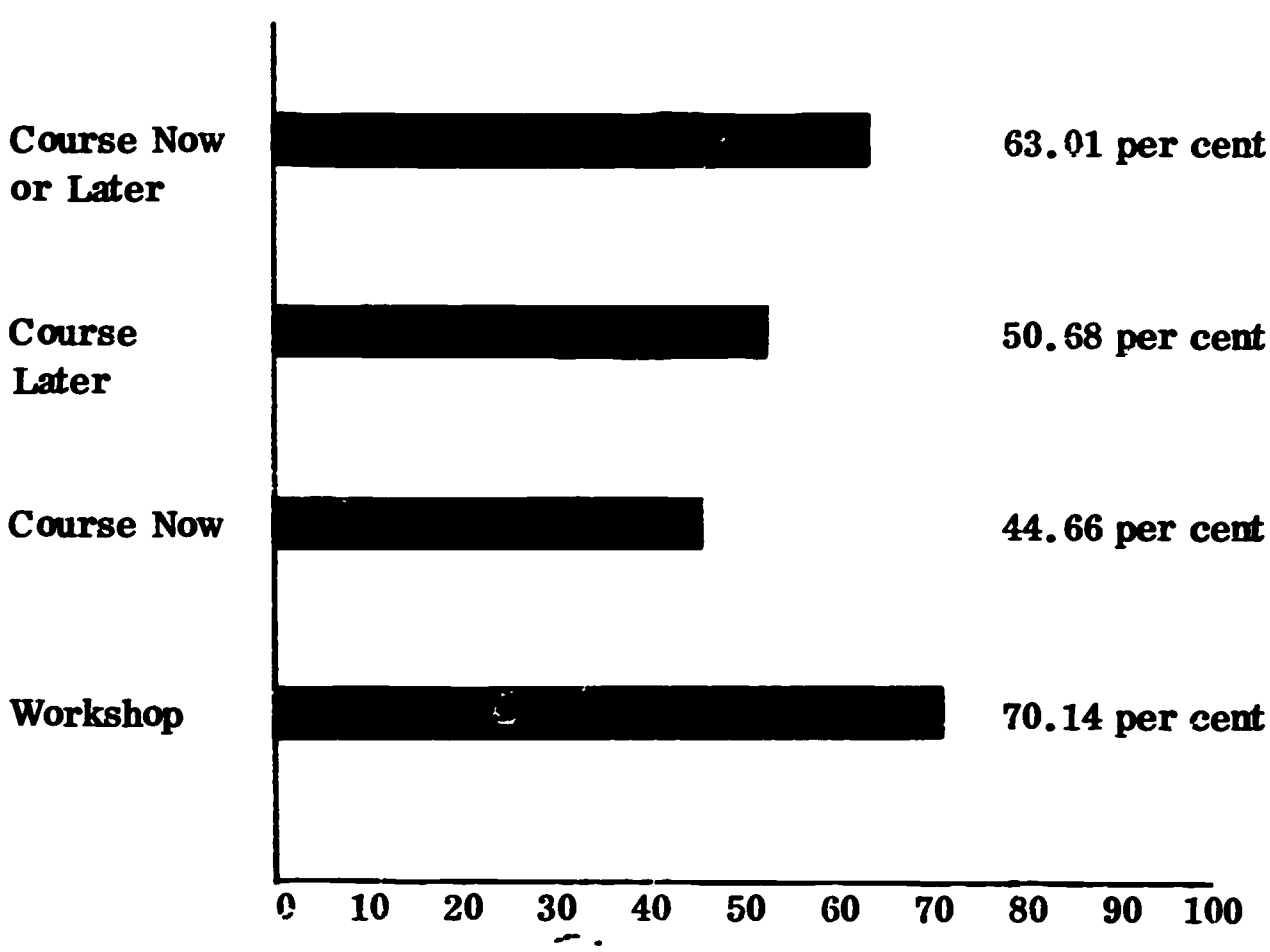
However, when the respondents are broken down by grade and type of job, the "course now or later" category outranks workshops, both for grade 9 and for non-administrators. This indicates that as the librarians move up in grade or go into administrative jobs, they tend to prefer workshops more as a means for continuing education.

The second category that proved to be the most applicable is "course now or later". To show the variations of applicability regarding all types of programs as well as the two most popular categories, Figures 3 and 4 are presented showing the percentage of respondents who checked courses under "workshops" and in "course now" or "course later" categories.

Every one of the 78 courses was checked by some respondent. The course that received the lowest number of responses was Item 80,

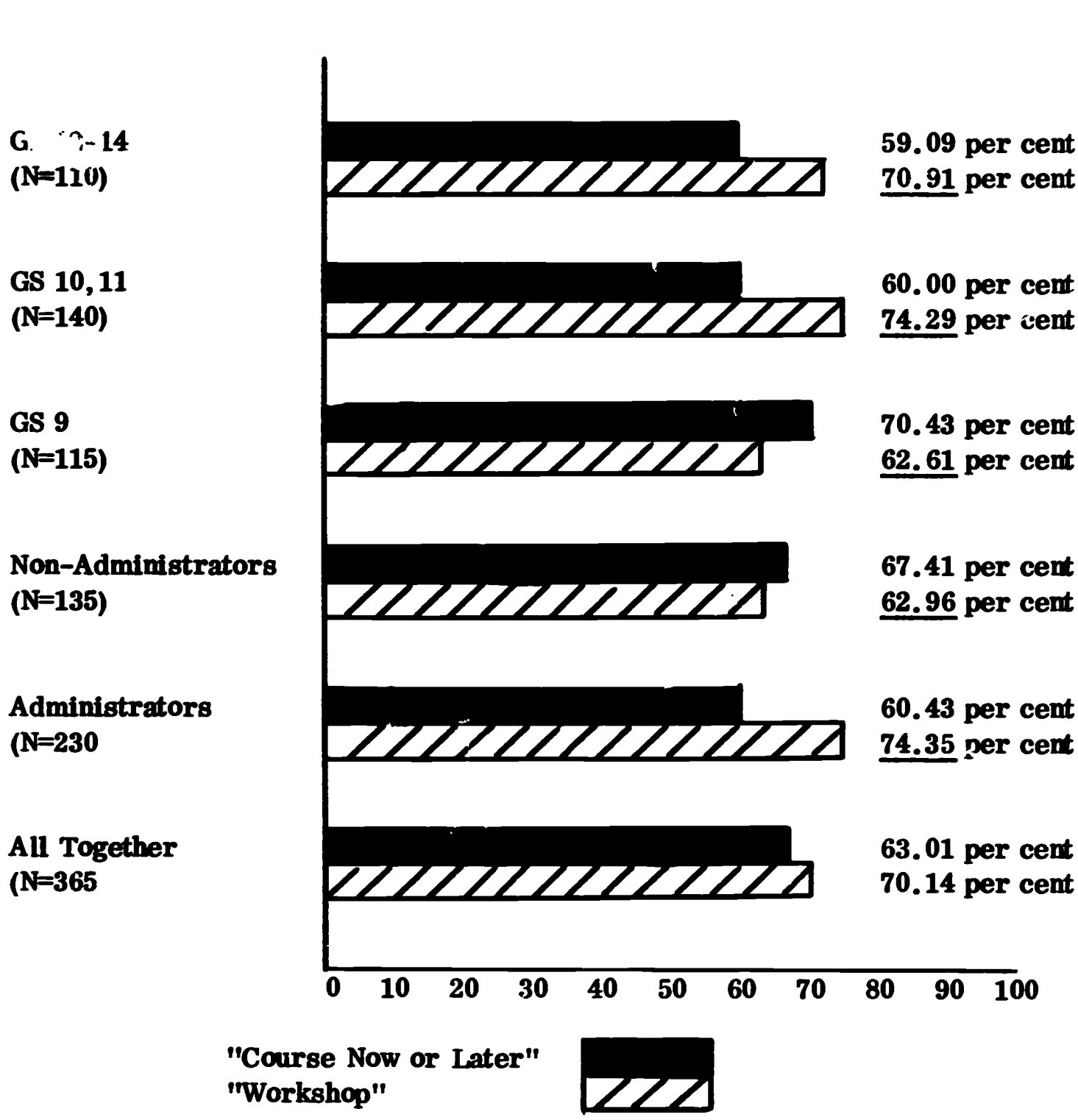
FIGURE 3

APPLICABILITY OF COURSES ACCORDING TO ALL RESPONDENTS: 1968



This figure shows the percentage of the 365 respondents who checked one or more course listings under "workshops" or "course now and/or later".

FIGURE 4
APPLICABILITY OF COURSES BY FREQUENCY OF "WORKSHOP" AND "COURSE NOW OR LATER" CHECKED BY TYPE OF POSITION AND GRADE LEVEL:1968



This figure shows the percentage distribution of respondents in various categories who checked one or more course listings under "workshop" or "course now and/or later".

"Agricultural Literature and Research", and even this course had 3 checks in "course now", 5 in "course later", and 7 in "workshop".

In conclusion, the respondents seemed to find the listing of courses adequate judged by the fact that there were only six write-ins which were not listed and the fact that all the courses were checked by some of the respondents. It must be remembered when noting the percentage of the various categories of respondents replying to the questions out of the total of 365, that only 142 of the respondents said they were interested in pursuing a post-MLS program; consequently, many of these respondents checked no courses at all.

Courses with Highest Rankings Based on Demand of all 365 Respondents and on the Demand of the 142 Respondents Indicating a Willingness to Enroll for a One-Year or More Post-MLS Program. In order to give a clear picture of demand both for all categories of respondents and for types of program ("workshop", "course now", "course later", "course now or later" combined) rankings were made of the 78 courses relating these various categories.

The basic table for this section is Table 29 which lists the courses showing the highest response rankings according to interest of all the 365 respondents in:

Course Now or Course Later	(Column 3)
Course Now	(Column 4)
Course Later	(Column 5)
Workshop	(Column 6)
Workshop, Course Now or Course Later	(Column 7)

Column 8 reflects the interests of only those 142 respondents who expressed a willingness to participate in a one-year or more program of post-MLS study in library science.

It was deemed important to ascertain the course demand for all 365 respondents characterized in various ways, but there is the consideration that perhaps those 142 (38.9 per cent) who stated they would take a post-MLS program as distinguished from individual courses, might opt for different courses, although the hypothesis was that they would fall into the same pattern.

Therefore, the premise was tested that the course rankings of the 142 respondents who actually indicated an interest in taking a post-MLS program would correlate positively with the course demand of all the 365 respondents.

It was found that there was an almost perfect rank-correlation between

TABLE 29

COURSES SHOWING HIGHEST RESPONSE RANKINGS INDICATING INTEREST IN (1) COURSE NOW OR COURSE LATER; (2) COURSE NOW; (3) COURSE LATER; (4) WORKSHOP; (5) WORKSHOP, COURSE NOW OR COURSE LATER FOR ALL 365 RESPONDENTS; (6) COURSE NOW OR COURSE LATER AS CHECKED BY RESPONDENTS STATING INTEREST IN POST-MLS PROGRAM: 1968

Course Number	Course Title	Course Now or Course Later		Course Now		Course Later		Workshop		Workshop, Course Now or Course Later		Course Now or Course Later as checked by respondents stating interest in post-MLS program	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank
26.	Automation of Library Processes	119	1	65	1	57	2	83	1	188	1	79	1
28.	Information Retrieval Systems	116	2	55	2	63	1	58	12	164	2	74	2
27.	Information Processing on Computers	101	3	52	3	51	3	44	30	138	3	66	3
19.	Administration of the Special Federal Library	65	4	38	4	29	8	59	8	117	4	38	9
5.	Administrative Policies and Practices	62	5	30	6	33	4	56	13	114	5	46	5
9.	Human Relations in Library Administration	58	6	29	7	30	5	62	7	112	6	47	4
43.	Information Retrieval for Clientele	55	7	25	11	30	5	59	8	109	8	46	5
8.	General Management	52	8	32	5	20	28	59	8	103	11	42	7
15.	Program Planning and Budgeting	52	8	24	13	28	10	54	14	101	12	37	10
73.	Organization and Administration of Reference Systems	51	10	28	8	25	11	38	36	85	21	34	14
7.	Design of Library Organizations	50	11	22	16	29	8	45	26	93	14	34	14
93.	Systems Analysis and Design for Library and Information Center Operations	49	12	26	10	24	14	26	52	71	30	35	13
12.	Personnel Administration in Libraries	48	13	25	11	24	14	52	15	93	14	39	8
13.	Personnel Problems under the Impact of Technological Change: Library Applications	45	14	21	19	25	11	51	16	90	16	37	10
74.	Search Logic and Tactics	45	14	23	14	23	18	44	30	86	20	33	16
90.	U.S. Public Documents	44	16	21	19	25	11	30	48	71	30	29	19
3.	Current Practices in Acquisition and Selection of Non-Book Materials	43	17	15	37	30	5	76	4	112	6	25	32
6.	Communication Theory and Processes	43	17	27	9	16	40	49	23	89	17	29	19
57.	The Scope of Information Science	43	17	22	16	22	24	51	16	89	17	29	19
68.	Publication in the Library and Information Science Fields	43	17	19	27	24	14	18	61	59	45	36	12
38.	Subject Representation	42	21	20	23	23	18	30	46	68	36	32	17
22.	Information Center Administration	41	22	23	14	19	29	30	46	63	41	29	19
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	41	22	18	28	23	18	48	25	84	22	26	28
94.	Systems Analysis in Information Science	41	22	20	23	22	24	21	57	58	48	29	19
44.	Literature Searching	40	25	22	16	19	29	49	23	84	22	32	17
50.	Abstracting and Indexing Services	39	26	17	32	23	18	31	42	68	36	29	19
72.	Non-Conventional Library Reference Tools	39	26	18	28	21	27	65	5	97	13	25	32
69.	Publishing in the Twentieth Century: Book and Non-Book Materials	36	28	13	44	23	18	41	34	71	30	29	19
87.	Scientific and Technical Literature and Research	36	28	20	23	19	29	42	33	75	27	27	27
2.	Centralized Processing	35	30	11	52	24	14	50	21	82	24	25	28
30.	Analytical Bibliography	35	30	21	19	16	40	20	58	52	53	29	19
66.	Resources and Services of the Federal Library Complex	35	30	21	19	16	40	77	3	108	9	22	43
92.	Library Management Information Systems	35	30	20	23	15	47	31	42	65	40	27	27
71.	Development and Maintenance of a Reference Referral Center	34	34	16	35	18	33	51	16	82	24	24	39
47.	Library Design and Architecture	33	35	18	28	15	47	35	38	67	38	25	32
34.	Centralized Cataloging at the National Level	32	36	11	52	23	18	51	16	78	26	21	47
77.	Research Development in Libraries	32	36	18	28	15	47	30	46	58	48	26	29

Table 29 Page 2

Course Number	Course Title	Course Now or Course Later		Course Now		Course Later		Workshop		Workshop, Course Now or Course Later		Course Now or Course Later as checked by respondents stating interest in post-MLS program	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank
1.	Building and Evaluating Library Collection	31	38	11	52	22	24	80	2	104	10	22	43
11.	Management of Records Systems in the Library	31	38	13	44	18	33	37	37	67	38	22	43
89.	Technical Report Literature	31	38	17	32	16	40	34	39	60	42	19	52
84.	Documents or International Organizations and Foreign Governments	30	41	14	42	17	38	18	61	46	58	18	54
33.	Cataloging and Classification of Non-Book Materials	29	42	15	37	15	47	44	30	69	34	18	54
40.	Circulation Systems	29	42	11	52	19	29	63	6	88	19	17	56
52.	Theories of Indexing and Information Retrieval	29	42	14	42	15	47	32	40	60	42	24	39
55.	Linguistics and Information Science	29	42	16	35	14	54	14	69	40	63	26	29
56.	Mathematical Techniques for Information Science	29	42	12	49	18	33	11	72	36	65	25	32
76.	Operations Research in Library Management	29	42	13	44	16	40	24	54	51	54	25	32
10.	Innovation and Planned Change in Library Organizations	28	48	10	58	18	33	32	40	59	45	23	42
17.	Theories of Organization and Management	28	48	15	37	14	54	30	46	57	50	24	39
51.	Content Analysis	27	50	10	58	17	38	16	65	42	61	25	32
64.	Library Networks	27	50	12	49	16	40	51	16	73	29	21	47
78.	Statistical Theory and the Interpretation of Statistical Data for Researching in Libraries and Information Centers	27	50	15	37	13	58	16	65	42	61	22	43
14.	Policy Formation and Decision-Making in Library Organizations	26	53	11	52	16	40	45	26	69	34	19	52
54.	Equipment and Instrumentation	26	53	13	44	14	54	24	54	48	57	21	47
82.	Biomedical Literature and Research	26	53	17	32	11	61	23	56	44	59	14	63
60.	Cybernetics and Society	25	56	7	67	18	33	26	52	50	56	21	47
65.	Mass Media in Communication	24	57	15	37	9	70	31	42	54	52	21	47
46.	Equipment Evaluation, Selection and Procurement	23	58	13	44	10	67	50	21	70	33	16	61
61.	International Library Services and Resources	21	59	6	71	15	47	17	64	37	64	17	56
63.	The Library Administrator and Government Policy, Organization and Operation	21	59	12	49	9	70	31	42	51	54	17	56
81.	Behavioral Science Literature and Research	21	59	10	58	11	61	18	61	36	65	14	63
16.	Public Administration	20	62	9	62	11	61	16	65	35	67	16	61
31.	Enumerative Bibliographic Systems	20	62	7	67	13	58	13	70	32	70	17	56
37.	Recataloging and Reclassification: Problems and Procedures	20	62	7	67	14	54	41	34	57	59	14	63
59.	Current Issues in Librarianship and Information Science	19	65	8	66	12	60	59	8	75	27	17	56
88.	Social Science Literature and Research	19	65	10	58	9	70	15	68	34	69	14	63
35.	Centralized Cataloging at the International Level	18	67	4	75	15	47	29	51	44	59	13	61
21.	Hospital Library Administration and Service	16	68	9	62	7	74	29	58	35	67	5	77
24.	Rare Book Librarianship	16	68	5	73	11	61	7	76	22	75	12	69
41.	Reprography	16	68	6	71	11	61	45	26	59	45	7	75
48.	Planning and Justifying Library Quarters	16	68	11	52	5	76	45	26	60	42	12	69
83.	Business and Economics Literature and Research	16	68	7	67	9	70	10	74	26	73	13	67
86.	Legal Literature and Research	16	68	9	62	7	74	13	70	29	72	7	75
85.	Fine Arts Literature and Research	15	74	5	73	11	61	11	72	25	74	9	72
20.	Archival Administration	14	75	4	75	10	67	9	75	22	75	8	74
23.	Law Library Administration and Service	13	76	9	62	5	76	7	76	19	77	11	71
62.	Labor Relations and Library Employment	11	77	1	78	10	67	20	58	30	71	9	72
80.	Agricultural Literature and Research	7	78	3	77	5	76	7	76	13	78	5	77

These statistics indicate course interest of the 142 respondents who expressed desire to participate in a year or more post-MLS program in library science. Of the 142, 122 said they would enroll for a one-year post-MLS program in library science, and of these 122, 83 were only interested in this type of program. Fifty-nine stated they would enroll for a doctoral program in library science, of which 20 stated they were only interested in a doctoral program and nothing else. Thirty-nine of the respondents checked both types of program.

the 142 stating they would take a post-MLS program and all the 365 respondents in the study at a 1 per cent level (r=0.94). On the basis of this analysis, it was decided that it was not necessary to repeat all the rankings for these 142 respondents as was performed for all the 365 respondents. The rankings of these 142 respondents for the 78 courses for the category "course now or course later" are presented in column 8 of Table 29.

In Table 29 in parallel columns, therefore, the number checking each course as well as the ranking is given for each of six categories listed above. The ranking for "course now or course later" was used as the order for listing these courses consecutively, and the other rankings are listed in relation to this category.

Examination of this table reveals that the ranking that deviates most from the others is that for "workshops". As this is the type of program for which the greatest demand was expressed by the respondents, Appendix Table XIX is presented, which shows the interest of administrators and non-administrators in workshops.

The over-all characteristic that is most noticeable is the fact that many courses in non-administrative areas have received high rankings. For example, first on the list for administrators is the course entitled "Current Practices in Acquisition and Selection of Non-Book Materials"; second is "Building and Evaluating Library Collections"; and "Automation", which ranks first on most of the breakdowns that have been made, ranks third. In fact, none of the top 5 are strictly administrative. This tendency toward non-administrative courses is even more pronounced among the non-administrators.

When those indicating "workshop" are broken down by grade level (Appendix Table XX) it is seen at the GS 9 level that two courses in acquisitions top the list, which would seem to reflect a current awareness that there are many new approaches to the acquisitions activity that librarians feel in need of learning, and which they feel can be acquired in the time allotment given in the average workshop experience. It is interesting to note that at the GS 9 level "Automation in Library Processes" ranks only 25th, while moving up to the GS 10 through 14 level, it ranks first. At the GS 10,11 level the top courses are still largely in specialized services, but at the GS 12-14 level, interest is chiefly in administrative courses for the top-ranking courses.

Since the pattern for workshops does seem to be different from that expressed relative to demand for courses, it would seem that these lists of workshop priorities as expressed by the respondents might

give an insight as to the type of knowledge and skill that the respondents think it is possible to strengthen and update on a short term basis, as opposed to the type of knowledge they feel would require a greater investment in time.

Turning now to an examination of the "Combined Listing of Course Now and Course Later" as it is divided by grades (Appendix Table XXI) it is seen that the top 3 listings for each grade are in the field of automation. For the course entitled "Automation of Library Processes", 35.6 per cent of the GS 9's expressed an interest as did 30.7 per cent of those in the GS 10,11 category and 31.8 per cent of the GS 12-14 respondents. This shows that the demand for training in automation is spread fairly evenly through all grades. Generally, as the grades get higher in this table, it is observed there is an increase in the demand for administrative courses.

The respondents were analyzed by age groupings to see if there were any observable differences here in demand for courses. (Appendix Table XXII) Looking at the first 10 courses listed, it was found that the greatest difference was in the 56 or over age group, which was also the smallest group.

Seven courses found in the top ten in this age group were not listed in any of the other three age groupings, and two of those three that were listed were common to all three groups: Course 26, "Automation of Library Processes"; and Course 28, "Information Retrieval Systems". The third was "Publication in the Library and Information Science Fields", which they had in common with the 35 and below group. The only other course that was common to the three remaining groups (35; 36-45; and 46-55) was the third course in automation, "Information Processing on Computers". It is interesting to note that the 36-45 group was the only one that had all its top ten listings in the administrative field, except for the three automation courses already mentioned. This might be an indication that this would be the chief age group one could expect for courses in administration and management at the post-MLS level, while those coming for automation would be fairly equally scattered in all age groupings.

Analysis of Subject Areas. Thus far in this chapter the study of course demand has been made with the individual course listing as the unit of analysis. However, since the ultimate objective of this study is building curricula, and since curricula are more than a collection of courses, it is necessary that the demand for courses be further studied with subject areas as units.

This was the reason behind grouping courses under 17 subject areas in the questionnaire. The objective was to build a score for the subject area as a whole denoting the over-all demand for the subject area. This score can be used further for ranking the subject areas in relation to demand. This has been accomplished in the following way.

It was decided to have three scores for each subject area corresponding to the headings, namely: "workshop", "course", and "workshop and/or course". Here, "course" is a combination of the two original headings used in the questionnaire, namely, "course now" and "course later" while the third heading is a combination of three headings used in the questionnaire.

For each subject area, if an individual checked one or more courses included in the subject area under the heading "workshop", the subject area got a score of one under the heading "workshop". The total number of such respondents was the score for each subject area in the column labelled "workshop". Similarly for each subject area, if an individual checked one or more courses either under the heading "course now" or "course later" in the questionnaire, the subject got a score of one, under the heading labelled "course". The total number of such respondents was the score for each subject area in the column labelled "course".

Similarly for each subject area, if an individual checked one or more courses under any of the 3 headings in the questionnaire, namely "workshop", "course now", or "course later", the subject area got a score of one under the heading used in this section, namely "workshop and/or course". As described above, the total number of such individuals formed the score for any given subject area.

The two subject areas which received the highest rankings (Table 30) under the headings "courses" and "workshops and/or courses" were automation (Rank 1), and administration (Rank 2), which would be expected from the results in these two general areas shown elsewhere throughout this study. This further substantiates the conclusions arrived at in earlier pages that automation and administration should play a very important role in the curriculum content of post-MLS programs. It is interesting to note, however, that in the "workshop" column , administration is first, while automation is only sixth. This would seem to imply that the respondents felt that automation was much too large a topic to be covered helpfully in a workshop format, especially if the respondent had had no training or experience in this area and was not currently employed in a library that utilized automation.

This combined ("workshops and/or courses") ranking brings into focus an area which has not stood out in particular in other analyses, namely,

TABLE 30

SUBJECT AREAS RANKED ACCORDING TO NUMBER OF RESPONDENTS CHECKING ANY INDIVIDUAL COURSE WITHIN THE AREA:1968

Item Numbers	Subject Areas	Workshops	Rank	Courses	Rank	Workshops and/or Courses [1]	Rank
1- 4	Acquisitions and Selection	113	3	67	8	153	4
5-18	Administration and General Management of Libraries	134	1	120	2	175	2
19-25	Administration of Special Types of Library Services	76	7	94	4	149	6
26-29	Automation	95	6	137	1	197	1
30-32	Bibliography	21	17	36	17	52	17
33-39	Cataloging and Classification	99	5	83	5	137	8
40-42	Circulation	64	10	37	16	92	11
43-45	Clientele Services	74	9	67	8	121	9
46-49	Housing and Equipment	61	11	46	15	91	12
50-53	Indexing and Abstracting	39	14	47	14	77	15
54-58	Information Science	55	12	65	10	100	10
59-67	Libraries, Government and Society	124	2	77	7	157	3
68-70	Publication	44	13	54	12	84	14
71-75	Reference	102	4	78	6	145	7
76-79	Research	36	15	49	13	73	16
80-91	Specialized Information Sources	75	8	97	3	151	5
92-94	Systems Analysis	32	16	61	11	86	13

[1]Individuals indicating a preference for "Workshop" may have also indicated a willingness to take "Course" work in a particular area. Because of this overlap, the columns will not add horizontally.

"Libraries, Government, and Society" (Rank 3). This subject area is covered in the following courses as listed in the questionnaire (Part II, Items 59 through 66):

Current Issues in Librarianship and Information Science	(Rank 27)
Cybernetics and Society	(Rank 56)
International Library Services and Resources	(Rank 64)
Labor Relations and Library Employment	(Rank 71)
The Library Administrator and Government Policy, Organization, and Operation	(Rank 54)
Library Networks	(Rank 29)
Mass Media in Communication	(Rank 52)
Resources and Services of the Federal Library Complex	(Rank 9)

The individual rankings[1] of the courses indicate that except for one (Resources and Services of the Federal Library Complex) they were not popular. The high ranking for this group was probably caused by the heterogeneous nature of the individual subjects included in the subject area, and hence, it seemed to possess some interest for a large number of respondents.

Open-End Responses Regarding Respondents' Suggestions for Courses. Even though the list of courses presented in the questionnaire was extensive, the project staff was aware that there might be omissions in the list. Consequently, on the last page of the questionnaire, respondents were invited to list courses important to them or needed by them which were missing in the checklist of courses; and at the same time they were also asked to add any comments that they felt were necessary. A complete analysis of the response to this question along with the comments given is presented in this section.

Courses Listed. The courses specifically listed by them are summarized quantitatively as follows. Altogether there were 48 suggestions, distributed among 22 courses.

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[1]The numbers in parentheses denote the rank under the heading, "workshop, course now or later", when the demand for individual courses was analyzed in Table 29 in column 7.

1.	Government libraries	9
2.	Administration	7
3.	Behavioral sciences	6
4.	Cataloging	3
5.	Automation	3
6.	Audio-visual materials	2
7.	International librarianship	2
8.	Publicity	2
9.	Archives (especially administration)	1
10.	Area studies librarianship	1
*11.	Ghetto librarianship	1
12.	Literature of special subject fields	1
*13.	Map librarianship	1
14.	Picture librarianship	1
*15.	Popular literature	1
*16.	Reading improvement (for users)	1
17.	Review courses	1
18.	Serials	1
19.	State of the Art of Librarianship today	1
20.	Technical report literature	1
*21.	Trends in library education	1
*22.	User surveys	1
	Total	48

From this listing it is noted that with the exception of the starred items all are areas already covered in the course listings. Generally, for those courses already listed the respondent was pointing out certain concepts or content within the course that he thought especially important, or he wanted to add his opinion that certain courses or areas merited special emphasis. This confirms the assumption, stated earlier, that the list of courses in the questionnaire was exhaustive.

Some comments showing the type of elaboration given follow:

Government Libraries. The major suggestion for a separate course was for a specialized course just on Federal libraries.

Training for Federal librarians should be a separate course in library schools -- recent observations lead me to think this important area is ignored and neglected. (Head librarian)

Special training is needed in special techniques used in government

*Areas not already covered in the course listings.

libraries, such as personnel and purchasing procedures with the objective of reducing costs and expediting the acquisition of library materials. (Head librarian)

There should be some type of special course to give practicing librarians ideas of the inside workings of major Federal libraries without taking the time and expense of visiting these libraries. Suggest this be done by closed circuit television wherein librarians all over the country could tune in on programs direct from the major Federal libraries. Scheduling and preparation would be the responsibility of the national libraries with specified areas of interest presented on each program, i.e., circulation, processing, reference, even the most elemental areas of their library programs. (Library administrator)

Administration.

Courses in administration and statistics should be a must for all. (Library administrator)

Need help in the practical organizational aspects such as monitoring service contracts, budgeting, plant layout, writing proposals, position descriptions, choosing and selecting supplies and suppliers, purchasing practice, personnel handling. There should be actual practice in each of these. (Head librarian)

Library schools should make their continuing education as practical as schools of education and business make their programs for graduates. Army Special Services workshops in personnel have been more helpful than library school programs. (Library administrator)

Behavioral Sciences.

Need more courses in behavioral sciences so librarians can climb over the mound of details to reach people served and those on the staff. (Head librarian)

Courses in psychology that would assist the librarian in meeting the public and would help one in a practical manner contend with frustrating routines, as well as deal with staff members more satisfactorily. (Head librarian)

Cataloging.

There needs to be actual practical experience offered in cataloging courses. (Cataloger)

Automation.

Computerized library processes should be required of all. (Reference librarian)

Automation courses should demonstrate how to "tie-in" with larger systems such as MARC and MEDLARS. (Head librarian)

Audio-Visual Materials.

Knowledge of audio-visual materials of all types, i.e., projectors, record players, films, film strips, recordings, microfiche, microfilm, and reader printers should all be covered in a course. (Library administrator)

Literature of Special Subject Fields.

Courses should be offered in "Literature of"....space science, international relations, personnel administration, policial systems, etc., as well as in broad areas like physical science, natural science and humanities. (Head librarian)

Serials.

Serials handling is a trouble spot in most libraries and is now handled generally on a trial and error basis....I would include all that comes in on a regular or irregular basis: government documents, UN documents, periodicals, congresses, etc. (Reference librarian)

Specialized Subject Areas Outside Librarianship.

Opportunity to take needed courses in other disciplines, such as mathematics, statistics, physics, computer science, without having to enroll in courses planned for subject specialists in these areas. (Reference librarian)

State of the Art of Librarianship Today.

A general survey of the state of the library art today. As it is, courses are so specialized and fragmented that there is lack of a common basis for communication. The poor generalist is left sometimes wondering if she is still part of the profession. (Head librarian)

Technical Report Literature.

A separate course should be offered on the handling and cataloging of technical reports, bibliographic description, formats and bibliographical and reference approaches. (Head librarian)

User Surveys.

A course is needed on the ways of definitely measuring the potential for library use to the population to be served and how much of that potential is realized. New and more effective means of reaching non-users should be discussed, but only after making sure that the libraries have something to offer new users. (Library administrator)

Suggestions in the Area of Workshops and Seminars. Seventeen respondents made suggestions in regard to workshops or seminars. On the whole these comments had to do with the general value of workshops and their scheduling rather than with specific areas of information that were to be covered. Typical comments are listed below:

Workshops should be coordinated so that there is a progression from one workshop or institute to another. Most of those I have attended begin at the beginning and repeat and repeat and repeat... (Head librarian)

Workshops would be welcome to the professional whose enthusiasm battery needs to be recharged. They might also be acceptable to management, who would be reluctant to agree to longer periods of absence. (Library administrator)

I want to keep up-to-date in reference materials and methods of retrieving information from "inside" documents as well as how to disseminate retrieval information to researchers who have specialized needs. This may be best done through periodic workshops. (Literature searcher)

There should be workshops available to Federal librarians in all areas. (Library administrator)

There should be short-term general orientation courses about libraries for scholars and authorities in subject areas who are employed in libraries, but do not need to get entangled with all types of library "know-how". (Library administrator)

Agency officials (those to whom the head librarian reports) need to have a few weeks training to see what goes on in the actual library situation. Reading a regulation manual or an hour's staff visit do not sufficiently acquaint such personnel with the objectives and actual work of the library. (Head librarian)

Analysis of the Structure of the Volume of Demand for Courses. In order to do this analysis, the variable that was chosen was the number of courses demanded by an individual in the category "course now or course later". For our purpose it seemed that this variable was the most appropriate one. The objective was to compare the males with the females, reference librarians with cataloging and classification librarians, heads of libraries with those who are not heads, administrators with non-administrators and people who want to take the post-MLS degree and those who do not want to take the program. Table 31 gives the means and variances for this variable for the above mentioned subgroups of respondents.

TABLE 31
ANALYSIS OF THE STRUCTURE OF THE VOLUME OF DEMAND FOR COURSES AS EXPRESSED BY THE RESPONDENTS: 1968

Variable	Mean	Variance
Male	7.53	99.49
Female	7.52	108.22
Heads of Libraries	9.34	161.81
Non-Heads of Libraries	6.92	85.87
Administrators	7.89	112.43
Non-Administrators	6.89	94.14
Reference	6.95	87.42
Cataloging and Classification	7.00	135.18
Respondents Who Would Enroll In a Post-MLS Program	13.85	151.36
Respondents Who Would Not Enroll in a Post MLS Program	3.44	34.15

An examination of the means and variances show that there is no difference between the average number of courses demanded by the males and females and between reference librarians and classification and cataloging librarians.

In order to check to see if the difference between heads of libraries and those who are not heads of libraries is significant, F (1.88) was calculated and found to be significant at the 1 per cent level. Thus the conclusion was reached that the head of the library and all others formed two different populations for this variable. In other words, the structures of the volume of demand for these two groups were entirely different, and in order to study the volume of their demands it was necessary to examine them separately.

For administrators and non-administrators the F statistic was insignificant at the 5 per cent level (F=1.19), and t was also insignificant (t=0.95) at the 5 per cent level. Therefore, in the demand for "course now and course later", administrators and non-administrators show no difference in the average number of courses demanded.

Last, the most important comparison was between respondents who wished to pursue post-MLS study and those who did not want to do so. F (4.43) was calculated and was found to be significant at the 1 per cent level. Hence we concluded these two sub-groups formed statistically different populations. and would have to be studied separately.

TABLE 32
CORRELATIONS BETWEEN SELECTED VARIABLES
AND THE DEMAND FOR COURSES
AS EXPRESSED BY THE RESPONDENTS: 1968

Variable	Number	Mean	Standard Deviation	Correlation Coefficient
Age	335	44.39	10.53	-0.18**
Grade	365	10.79	1.45	-0.13*
Years of Professional Experience	365	13.99	10.03	-0.11*
Years in Present Position	365	4.92	5.75	-0.15**
Years Elapsed since MLS	348	13.91	10.67	-0.13*
Years between Bachelors Degree and MLS	330	7.13	7.32	-0.06
Hours per Week of Avoidable Detail	321	9.05	7.05	0.12*
Number of People Supervised	344	6.36	11.25	-0.04
Years Worked with Federal Government	353	11.00	9.25	-0.10

**significant at 1 per cent level
* significant at 5 per cent level

Correlation between Demand for Courses and Several Variables. (Table 32)

With Age. Correlation coefficient = -0.18[1]

A significant negative relationship between the age of the respondents and their demand for courses at the 1 per cent level was found. This is to say that as the librarians get older, there is less probability of their actually enrolling for a post-MLS course. The value of the correlation coefficient is quite small, however. This indicates that even though age definitely influences the decision of an individual to enroll for a post-MLS program, the magnitude of the influence is quite small. In other words, the popular notion that the older people become, the less likely they are to come back to school may be true, but the evidence to support this is not conclusive.

With Grade. Correlation coefficient = -0.13[2]

There was found to be a significant negative relationship between the grade level of the respondents and their demand for courses at the 5 per cent level. Thus, as the librarian rises in his grade level, he may be less apt to enroll for a post-MLS program; but here again, the correlation coefficient is not as high as might have been expected.

[1]Significant at 1 per cent level
[2]Significant at 5 per cent level

With Professional Experience. Correlation coefficient= -0.11[2]
Here again, there was found to be a significant correlation between the years of professional service and the respondent's demand for courses at the 5 per cent level. The more years of professional experience the respondent has, the less likely he is to enroll in post-MLS courses. At least it is encouraging to note that it is just barely significant and need not be a totally discouraging factor in planning for courses.

With Years in Present Position. Correlation coefficient= -0.15[1]
Here there is also a significant negative correlation between the years in the present position and the demand for courses at the 1 per cent level. This means that the longer a person has been in his present position, the less likely he is to engage in post-MLS study.

With Years Elapsed since MLS. Correlation coefficient= -0.13[2]
There is also found to be a statistically significant negative correlation between the number of years elapsed since the MLS and the respondent's demand for courses at the 5 per cent level. The more time that has elapsed since his MLS, the less likely he is to enroll for the post-MLS program.

With Years between Bachelor's Degree and MLS. Correlation coefficient = -0.06
In this instance, there is a negative correlation between the number of years between the bachelor's degree and the MLS degree, but the relationship is not statistically significant.

With Amount of Avoidable Detail. Correlation coefficient= 0.12[2]
Of all the correlation coefficients obtained relative to demand for courses, this is the only one which showed a positive relationship, and it is statistically significant. Therefore, this positive relationship does indicate a desire on the part of those involved in a great deal of avoidable routines in their jobs to seek a post-MLS program, possibly to escape from such situations.

With Number of People Supervised. Correlation coefficient= -0.04
There was found to be a negative correlation between number of people supervised and the desire to take post-MLS courses. However, this relationship is not statistically significant and is so small that there seems to be no relation between number of people supervised and their expressed wish to engage in post-MLS courses.

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[1]Significant at 1 per cent level
[2]Significant at 5 per cent level

With Years Worked for the Federal Government. Correlation coefficient = -0.10

There was found to be a positive relationship between number of years worked for the Federal government and willingness to engage in a post-MLS program, but it is statistically not significant. It is large enough, however, to indicate a tendency toward the condition that as the number of years a person has worked for the Federal government increases, he is less apt to engage in a post-MLS program.

RELATIONSHIP BETWEEN DEMAND FOR COURSES AND TWO JOB-RELATED VARIABLES

In the previous chapters of this report we have presented information concerning: (1) the needs of the Federal library respondents in relation to their jobs; (2) their demand for courses; and (3) selected variables concerning the individual librarian including age, grade, years of professional experience, present position, education, number of people supervised, years between the bachelor's and master's degrees, and time elapsed since the MLS.

In this section, selections from these three types of data are isolated for purposes of analysis in order to determine if any significant correlations or associations exist which might determine recommendations for curriculum development.

Relationship between Demand for Courses and Type of Position.

Demand for a course was expressed in three ways by the respondent, namely: demand for a course now, later, or demand for a workshop. These were also formed into various combinations for the purposes of analysis. Hence, in order to choose the courses with topmost demand, it is necessary to take into account all of these factors. On this basis, the five following courses in administration, ordered as they appear in the questionnaire, were judged to be in greatest demand:

Course 5.	Administrative Policies and Practices
Course 8.	General Management
Course 9.	Human Relations in Library Administration
Course 15.	Program Planning and Budgeting
Course 19.	Administration of the Special Federal Library

Further, the following courses dealing with specialized aspects of library service were judged to be greatest in demand:

Course 3.	Current Practices in Acquisition and Selection of Non-Book Materials
Course 43.	Information Retrieval for Clientele
Course 73.	Organization and Administration of Reference Systems
Course 93.	Systems Analysis and Design for Library and Information Center Operations

The three courses in automation, (Courses 26, 27, and 28), were by far the greatest in demand; however, it was decided to treat these as one course. This was omitted for this analysis since it seemed obvious that such an analysis would not be meaningful for automation courses since automation covers both administrative and non-administrative areas.

The objective of this analysis was to find out if there was a difference in the proportion of administrators demanding the course compared with a similar proportion for non-administrators. In other words, whether the administrators differed from the non-administrators in their attitudes toward taking the post-MLS courses. (Table 33)

However, it was revealed that for each of these courses there was no demand differential. That is to say, that the demand for any of these courses has nothing to do with whether the respondent is an administrator or not. The only possible exception is for Course 43, where it seems there is some association between type of position and demand; but even there it is not statistically significant at the 5 per cent level.

This has important implications for curriculum building and course content. If this demand schedule portrays reality, then we can expect that in any program that is developed, proportions for administrators and non-administrators would be maintained. Hence in planning the courses, it is wise to remember that whether the course is administrative or non-administrative in its emphasis, there would tend to be students of both of these types of position proportionately represented.

Relationship between Demand for Courses and Type of Work Performed.

One objective in collecting data on the job inventory and on the demand schedule for courses was to relate them and study the influence of the first on the second. In order to pursue this objective, each course was matched with corresponding job items. This matching meant that a particular job item was assigned to the course where it would be most likely to be discussed. In reverse, therefore, this yields a list of job items for every course. This matching was done by a number of experts in library education independently of each other. It was found that there

TABLE 33
RELATIONSHIP BETWEEN DEMAND FOR COURSES AND TYPE OF POSITION: 1968

Course Number	Course Title	Demand for Course: Yes, want course. No, do not want course.	Administrative	Non-Administrative	Chi-Square
3.	Current Practices in Acquisitions of Non-Book Materials	Yes	31	12	x^2=1.72
		No	199	123	
5.	Administrative Policies and Practices	Yes	38	24	x^2=0.14
		No	192	111	
8.	General Management	Yes	36	16	x^2=1.01
		No	194	119	
9.	Human Relations in Library Administration	Yes	41	17	x^2=1.74
		No	189	118	
15.	Program Planning and Budgeting	Yes	38	14	x^2=2.63
		No	192	121	
19.	Administration of the Special Federal Library	Yes	139	91	x^2=1.79
		No	91	44	
43.	Information Retrieval for Clientele	Yes	29	26	x^2=2.94
		No	201	109	
73.	Organization and Administration of Reference Systems	Yes	33	18	x^2=0.07
		No	197	117	
93.	Systems Analysis and Design for Library and Information Center Operations	Yes	35	14	x^2=1.66
		No	195	121	

was a close similarity between these lists; hence, it was possible to produce a final compendium of courses and their corresponding job items. However, it was decided at this stage of the study not to study these relationships for all courses, but for a few courses which were deemed to be most popular on the basis of several factors.

The chosen objective, as listed in Table 34, was to find out whether people engaged in any one of the selected job items associated with a course tend to demand that course more than those people who are not engaged in any one of these job items. The necessary statistical procedure was to calculate the chi-square statistic for each of these two by two resultant tables. These tables, along with the chi-square values, are presented in Table 34.

For each of these courses, it is important to notice that respondents who are engaged in any of the selected job items tend to demand the courses more often than respondents who are not engaged in any one of the job items. The difference is statistically significant for three courses: namely Course 3, Current Practices in Acquisitions; Course 73, Organization and Administration of Reference Systems; and the automation course as combined. Further, Courses 43 -- Information Retrieval for Clientele --, and 15 -- Program Planning and Budgeting -- had a difference, that even though it was not statistically significant at the 5 per cent level, was close to it.

Hence it would seem that if a course dealt with non-administrative matters in general, then it would be more likely that people who actually perform jobs that constitue part of the course would tend to demand it more often than people who were not associated with such job items. However, whether this is true for all the courses listed in our questionnaire can only be ascertained if the other courses are subjected to such analysis.

It must be remembered, however, that no such association was seen when the same course was analyzed with respect to administrators and non-administrators. Therefore, the conclusion seems to be that it is not the type of position that motivates an individual to take a course; but rather, whether the job activities performed by the individual are dealt with in the content of the course.

Analysis of Additional Data in the Questionnaire Relative to Automation and Its Relationship to Demand for Courses.

Number of Automated Activities in Respondents' Libraries. (Answers to Questions 12-30 in Part III of the Questionnaire, Page 10.) As the questionnaire was being formulated, the publication by Schick (Ref. 3 :17) entitled "Survey of Special Libraries Serving the Federal Government"

TABLE 34
RELATIONSHIP BETWEEN DEMAND FOR COURSES AND TYPE OF WORK PERFORMED: 1968

Course Number	Course Title	Demand for Course. Yes, want course. No, do not want course	Respondents engage in work with which course deals	Respondents do not engage in work with which course deals	Chi-Square
3.	Current Practices in Acquisitions of Non-Book Materials	Yes	19	24	$x^2=7.75$*
		No	78	244	
5.	Administrative Policies and Practices	Yes	40	22	$x^2=0.43$
		No	182	121	
8.	General Management	Yes	47	5	$x^2=1.06$
		No	266	47	
9.	Human Relations in Library Administration	Yes	41	17	$x^2=2.81$
		No	183	124	
15.	Program Planning and Budgeting	Yes	27	25	$x^2=3.09$
		No	122	191	
26.	Automation of Library Processes				
27.	Information Processing on Computers	Yes	58	52	$x^2=6.42$*
		No	98	157	
28.	Information Retrieval Systems				
43.	Information Retrieval for Clientele	Yes	42	13	$x^2=3.08$
		No	199	111	
73.	Organization and Administration of Reference Systems	Yes	31	20	$x^2=4.62$**
		No	140	174	

* Significant at 1 per cent level
**Significant at 5 per cent level

came to the attention of the research staff. This report contains a survey of automation in Federal libraries. However, the manner of presentation does not give any idea of the number of librarians engaged in these automation activities.

In order to get some idea of the number of librarians who engage in these automation activities and the number of librarians who work in libraries where some activities are automated, the automated activities list as used in the Schick report was given in Part III of the questionnaire.

An analysis of the answers to these items for Stratum II (agencies other than the Library of Congress) is presented in Table 35. Examination of this table shows that 24 non-administrators are engaged in departments in their libraries which are using automated procedures. Out of 292 respondents in this stratum, 58.3 per cent report no automated activities in their libraries.

In the libraries represented by the respondents, the activities which are most frequently reported as being automated are listed in rank order. The numbers in parentheses after each activity indicates the rank order that Schick (Ref. 3:17) found in his survey made about one year earlier than this study. The lack of agreement here is considerable.

Ranking in this Study		Ranking in Schick Study
1.	Documents information retrieval	(10)
2.	Serial record processing	(6)
3.	Card catalog production	(1)
4.	Bibliography production	(2)
5.	Circulation control	(5)
6.	Thesauri preparation	(10)
7.	Acquisitions	(4)
8.	Book catalog production	(9)

It is interesting to note that two of the activities for which Schick only had one listing were first and fifth in the present survey: document information retrieval and thesauri construction.

The question arises: Are those respondents who indicate on the questionnaire that one or more of the activities in their libraries are automated more likely to check courses in automation than those who said there were no automated activities in their libraries ?

Statistical analysis was made of the following 2 x 2 table. The resulting

TABLE 35

FREQUENCY OF AUTOMATED LIBRARY ACTIVITIES IN RESPONDENTS' LIBRARIES IN STRATUM II (Libraries other than Library of Congress): 1968

Library Activities	Non-Administrative Respondents whose Primary Activity is Automated	Respondents Indicating Automated Activities in Their Libraries		Total
		Administrative	Non-Administrative	
Accounting	--	8	5	13
Acquisitions	--	14	8	22
Bibliography Production	5	21	8	34
Book Catalog Production	1	13	6	20
Book Indexing	--	9	2	11
Catalog Card Production	2	28	8	38
Circulation Control	--	21	4	25
Document Information Retrieval	7	23	10	40
Graphic Storage of Materials	--	5	2	7
Legislative Indexing	--	3	1	4
Patron Control	--	7	2	9
Personnel Records	1	12	5	18
Reference Queries	2	6	3	11
Report Inventory	--	6	1	7
Selective Dissemination	1	12	3	16
Serial Record	3	24	13	40
Tele-Communication Devices	--	8	3	11
Thesauri Preparation	1	15	9	25
Union Lists	1	14	--	15
Other	--	3	--	3
No Activities Automated	--	135	35	170
Total	24	*	*	*

* Addition of these columns would not be significant because of duplication in answers.

chi-square indicates that having automated activities in the respondent's library and his wanting to take a course in automation are unrelated (x^2 = +.0017).

TABLE 36

RELATIONSHIP BETWEEN DEMAND FOR COURSES IN AUTOMATION AND HAVING AUTOMATED ACTIVITIES IN LIBRARY: 1968

	Respondent wants to take a course in automation	Respondent doesn't want to take a course in automation	Total
Respondent has some automated activities in his library	83	112	195
Respondent has no automated activities in his library	72	98	170
Total	155	210	365

x^2= +.0017 Highly insignificant

In other words, the analysis showed that a prediction cannot be made concerning whether or not a person tends to want to study automation simply because some of the functions in his own library may be automated.

Number of Respondents Involved at a Supervisory Level in Electronic Data Processing Procedures. -- Another question was asked concerning automation as follows:

> Are you involved at an administrative or supervisory level in applying electronic data processing procedures? (Part III of the Questionnaire, Question 11, Page 10).

Of the 365 respondents, 12.3 per cent answered "Yes" to this question.

Again a question similar to that posed above, namely: Will those who indicate that they are involved at an administrative or supervisory level in applying electronic data processing procedures be more apt to take courses in automation than those who are not so involved?

Statistical analysis based on the following 2 x 2 table (Table 37) shows the association between those involved at a supervisory level in applying automation, and those indicating an interest in taking a course in automation was not statistically significant. (x^2=+2.35) However, in this instance there is some association to suggest a tendency of those involved at a supervisory level toward an interest in taking courses in automation. In other words, it suggests that the librarian who is directly involved at a supervisory level in automation is more likely to want such courses than those who only have automation someplace in the library, but are not directly involved in the process in their own job.

TABLE 37

RELATIONSHIP BETWEEN DEMAND FOR COURSES IN AUTOMATION AND SUPERVISION OF AUTOMATED ACTIVITIES:1968

	Respondent wants to take a course in automation	Respondent doesn't want to take a course in automation	Total
Respondent involved at supervisory level in applying data processing	24	21	45
Respondent not involved at supervisory level in applying data processing	132	188	320
Total	156	209	365

x^2=+2.35 Not significant

Those Listing Data Processing as their Primary Activity. -- Data processing was one in a list of 38 library activities which the respondents used to indicate their primary engagement. Out of the 365 respondents, only 2 checked this item as that single professional speciality in which he was primarily engaged. Both were non-administrators.

SUMMARY: ATTAINMENT OF OBJECTIVES

The findings and conclusions of this chapter are stated here in relation to the objectives stated at the opening of the chapter.

Identification of those Courses which Practicing Federal Librarians Are Most Interested in Studying at the Post-MLS Level.

The devotion of a major portion of this section to those courses with the highest rankings makes further detailed presentation here redundant. However, there were two types of courses that received the highest over-all rankings in several dimensions: courses in automation (Items 26, 28 and 27); and courses in the area of administration and management of libraries, especially Administrative Policies and Practices. Human Relations in Library Administration, General Management, Program Planning and Budgeting, and Administration of the Special Federal Library.

The courses dealing with specialized aspects of library service which were judged to be the greatest in demand are: Current Practices in Acquisition and Selection of Non-Book Materials (Course 3); Information Retrieval for Clientele (Course 43); Organization and Administration of Reference Systems (Course 73); and Systems Analysis and Design for Library and Information Center Operations (Course 93).

The hypothesis was tested whether the course rankings of the 142 respondents who actually indicated on the questionnaire an interest in taking a post-MLS program would correlate highly with the course demand of all the 365 respondents. There was found to be an almost perfect correlation between the two rankings.

The courses were ranked according to the main categories being studied in each section of this questionnaire, namely: type of position, grade level, and stratum, as well as all of the 365 respondents together.

Further, as an aid to curriculum building the 17 main subject areas were ranked in relation to demand. The subject areas which received the highest rankings as a result of this analysis were first -- automation, and second -- administration.

Identification of Types or Degrees of Interest in Courses.

The analyses were made according to types or degrees of interest in courses; namely, whether the respondent was chiefly interested in a "workshop", a "course now", a "course later" (identified in the questionnaire as three to five years from now); a "course now or later"

(meaning a combination of now and/or later); and to see which courses over-all ranked the highest in a category entitled "workshop, course now or later" or to no interest in taking a given course at all.

An indication of the respondent's preference for course format is seen by listing the percentage of respondents who chose courses within each format:

70.14 per cent checked 1 or more courses under "workshop"
50.68 per cent checked 1 or more courses under "course later"
44.66 per cent checked 1 or more courses under "course now"

When "course later" was combined with "course now", it was found that 63.0 per cent of the respondents had checked one or more courses when these two formats were grouped together in one category.

Further, it was found that "course now" and "course later" as checked by the respondents had a very similar pattern of response, but there were obvious differences in the rankings of courses listed under "workshop". The courses receiving the highest rankings under the workshop format tended to deal more with the specialized aspects of library service. For example, the top five rankings are: Automation (Course 26); Building and Evaluating Library Collections (Course 1); Resources and Services of the Federal Library Complex (Course 66); Current Practices in Acquisition and Selection of Non-Book Materials (Course 3); and Non-Conventional Library Reference Tools (Course 72).

Free Response Comments on Courses.

To what do the respondents' comments on courses add up? It would seem that five generalizations can be drawn out of this cross-section of the replies of Federal librarians.

(1) Generally, the respondents thought the suggestions for courses were quite comprehensive as only six courses were mentioned that were not included in the scope of the questionnaire.

(2) The practical aspects of administration were stressed not only in the comments relating directly to administration courses, but also in relation to other courses such as those on Federal libraries and in the area of the behavioral sciences.

(3) The importance of understanding and using the new technology was mentioned in relation to several courses, such as audio-visual materials, automation, and Federal libraries. Of particular

interest was the suggestion that a course on Federal libraries should be made available to librarians everywhere through the use of closed circuit television.

(4) Concern for the user was mentioned relative to several courses in such terms as the following: training in the methodology of user surveys, development of sensitivity in understanding the user's needs, ways of reaching the non-user, and training to enable the librarian to "climb over the mound of details to reach people".

(5) The value of the workshop as a means of continuing post-MLS education was mentioned by 17 of the respondents. It is interesting to note that although the open-end question to which the librarians were responding said nothing about suggestions for workshops, this method of professional growth was stressed so often and in such terms as being available to all librarians, in all areas, at all times.

Isolation and Analysis of Selected Course-Related Variables and the Measurement of their Relationship to Variables Presented in Other Parts of the Study.

Structure of the Volume of Demand for Courses. In order to determine if there is any relationship to the number of courses chosen in the combined category "course now/ course later", and various groups of the respondents, a statistical analysis was made to determine the structure of the volume of demand for courses. For this analysis, it was found that:

(1) There is no difference between the average number of courses demanded by:

--Males and females;

--Reference librarians and classification and cataloging librarians;

--Administrators and non-administrators.

(2) There is a distinct difference between the average number of courses demanded by the following groups, and in order to study the volume of their demands, each category of respondent must be studied separately: (Each group forms a statistically different population in relation to number of courses checked).

--Those who are heads of libraries and those who are not heads of libraries;

-- Those who indicate they would participate in a post-MLS program in library science and those who indicate they will not participate.

Correlation between Demand for Courses and Several Variances. The relationship between demand for courses in relation to several variables was analyzed with the following results:

(1) The possibility of the respondents' enrolling for a post-MLS course:

-- Decreases as the librarians grow older
(statistically significant at the 1 per cent level)

-- Decreases as the librarians advance to higher grades
(statistically significant at the 5 per cent level)

-- Decreases as the librarians increase years of professional experience
(statistically significant at the 5 per cent level)

-- Decreases as the number of years in present position increases
(statistically significant at the 1 per cent level)

-- Decreases as the number of years increases following MLS degree
(statistically significant at the 1 per cent level)

-- Decreases as the number of years between the bachelor's degree and the MLS degree increase
(not statistically significant at the 5 per cent level)

-- Decreases as the number of years in the Federal government increases
(not statistically significant at the 5 per cent level, but large enough to indicate a tendency in this direction)

-- Increases as the amount of avoidable detail work on the job increases
(statistically significant at the 5 per cent level)

-- Seems to show no relation to the number of people supervised
(the correlation was negative, but very small)

Relationships between Job-Related Variables and Demand for Courses.

From the statistical analysis showing the relationship of the demand for courses to job-related variables, conclusions can be drawn which have

important implications for the development of courses at the post-MLS level.

Relation between Demand for Courses and Type of Position. First, the findings seem to indicate that the course needs of Federal librarians stem from the job activities that are performed. If the course content deals with the work in which the individual is currently engaged, the individual is more likely to take the course than if its content does not pertain to the job activities in which he is currently engaged.

This finding is in agreement with that of a recent study (Stone, Ref. 4 :234) which found that the content of formal course work which can be related to the librarian's actual job was the most influential factor in motivating the librarian to enroll in formal courses. Further, this conclusion would seem to bear a relationship to the studies by Herzberg (Ref. 2) which maintain that motivation in the work situation is closely related to the opportunity to grow in job competence.

Relation between Demand for Courses and Type of Work Performed. Second, the findings seem to indicate that the expressed willingness to take these courses was not dependent upon the type of position, namely administrative or non-administrative. Further, the total volume of demand for courses does not differ appreciably between the administrators and the non-administrators. The problem then arises, "Should they be taught together or should they be taught separately?" In other words, when he is building the course and writing the behavioral objectives for it, the curriculum builder has to keep constantly in mind the group for whom the course is being offered.

These findings were also reinforced in the free response section of the questionnaire. The respondents pointed out rather forcefully that they did not wish to return to school to take courses which were not oriented to their present job needs; or courses which were on the same level as those they had taken at the MLS level; or courses in which there were enrollees who did not have similar backgrounds, training, and experience to their own.

Automation and Its Relationship to Demand for Courses. Through analysis it was shown that having automated activities in the respondent's library and wanting to take a course in automation are unrelated statistically. That is to say, a prediction cannot be made concerning whether or not a person tends to want to study automation simply because some of the functions in his own library may be automated.

However, it was also shown statistically that the librarian who was directly involved at a supervisory level in automation was more likely

to want to take courses in automation than those who only have automation someplace else in the library, but are not directly involved with automation in their own job.

A related condition was observed in the data presented in Chapter IV. Of nine respondents who said automation was their greatest competence, eight checked that they wanted to take course work in this area, and only one of the nine checked no automation courses.

These conditions provide supportive evidence for the principle, mentioned in the previous sections of this chapter, that a person who is engaged in a particular type of work tends to want to take courses in that area.

On the other hand, 16.2 per cent of the respondents listed automation one of their greatest weaknesses, and gave the reason for little competency as lack of training or knowledge. Of those listing automation as the area of their least competency, 71.2 per cent indicated a desire to take some type of formal course work. Reading the responses of these individuals, one finds the reason for their stated willingness to take courses seems to be that they feel automation will be needed in their present jobs in the near future. It would seem, therefore, that in this special situation both responses supply supportive evidence for the premise that content directly related to the job situation provides the greatest motivation for enrolling in post-MLS courses.

REFERENCES TO CHAPTER V

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2. Herzberg, Frederick. "One More Time: How Do You Motivate Employees?" Harvard Business Review, 46:59, January-February, 1968.

3. Schick, Frank. Survey of Special Libraries Serving the Federal Government. Washington, D.C.: National Center for Educational Statistics, 1968.

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CHAPTER VI

RESEARCH FINDINGS: ADDITIONAL DATA RELATIVE TO BUILDING A POST-MASTER'S PROGRAM IN LIBRARY SCIENCE

In Chapter V, the needs for individual courses and workshops, as perceived by the Federal librarian respondents, were studied in depth. This analysis provided the background data needed to achieve the ultimate objective of the project, namely the development of a post-master's curricular program in library science. The base for a curricular structure is further enlarged in this chapter through a thorough study of data collected in the questionnaire pertaining to post-master's programs as a whole.

The approach is multi-faceted. The chapter begins with an analysis of answers to questions designed to elicit the interest of respondents in different types of post-master's programs. This is followed by material relating this interest to variables like distance from accredited library schools and the extent of formal education completed following the MLS degree.

Then the strategy is changed by the study of the data collected from open-end questions relative to post-master's programs. Different types of data pertaining to post-master's programs were collected through these open-end questions. The self-perceived deficiences in the respondent's education are investigated since one of the objectives of this study is to remedy them at the post-master's level.

Following this is the analysis of knowledge, attitudes, and skills listed as most important for the respondent's hypothetical replacement. Lastly, the analysis of other open-end questions pertaining to post-master's programs follows.

INTEREST IN FORMAL POST-MASTER'S PROGRAMS

In the data gathering instrument, eleven questions were asked concerning the respondent's future interest in formal post-master's programs of a year's duration or more. (Part II of the Questionnaire, questions 96 through 105, page 9) It is to be noted that the replies to these questions in each instance implied a commitment to a "program" of a certain time duration as distinguished from the responses in the last chapter, which sought the interest of the respondents in regard to specific courses, not necessarily a part of a total program package.

Number Expressing Willingness to Enroll for One-Year Post-Master's Program in Library Science.

Out of the 365 respondents, 122 or 33.4 per cent, answered in the affirmative the question: "Would you enroll for a one-year post-MLS program in library science?" (Part II of the Questionnaire, Number 96) The breakdown of these answers by sex, type of question and grade level (Table 38) would seem to warrant the following conclusions:

-- Interest in taking a post-MLS one-year program was generally the same for men as for women, as 34.4 per cent of the men in the study and 33.1 per cent of the women checked "Yes" to this question.

-- In general, the interest in taking a post-MLS program was the same for administrators as for non-administrators, as 31.7 per cent of the administrators and 36.3 per cent of the non-administrators checked that they would enroll for a post-MLS program.

-- Interest in taking a post-MLS one-year program was generally lower for grades 12-14 than for grades 9-11. This is reflected in the following statistics:

37.4 per cent of those in GS 9 stated they would enroll.
36.4 per cent of those in GS 10, 11 stated they would enroll.
25.5 per cent of those in GS 12-14 stated they would enroll.

Thus, it would seem that as the grade level increases, desire to take a post-MLS program has a tendency to decrease.

Necessary Conditions for Enrollment. Of the 122 respondents (33.4 per cent) indicating an interest in a post-MLS one-year program, 111 respondents, or 90.9 per cent, listed certain conditions only under which would they enroll in such a program. (Question 97)

Question 98 asked for a listing of these conditions. As shown in Figure 5 and documented in Appendix Table XXIII, the most frequently mentioned condition involved making satisfactory financial arrangements. Partial financial help was stated as a condition by 45 (36.9 per cent) of the 122 respondents answering this question, and total financial help was listed as a condition by 16 respondents (13.1 per cent). From reading the conditions stated by the 122 persons answering this question, the general impression was that to enroll a large proportion of those respondents who said they would return to school would require major financial assistance, even from those who did not indicate the need for total financial support.

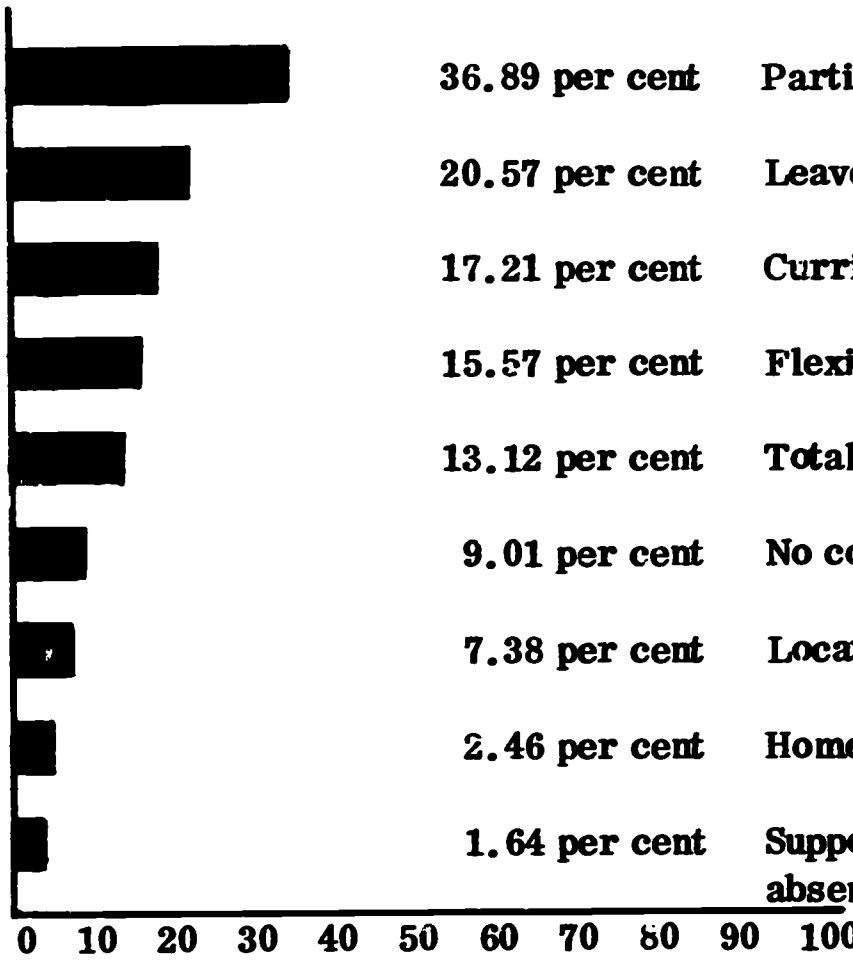
TABLE 38

FREQUENCY DISTRIBUTION OF RESPONDENTS WILLING TO ENROLL FOR ONE-YEAR POST-MLS AND/OR PH.D. PROGRAM IN LIBRARY SCIENCE BY TYPE OF POSITION, GRADE LEVEL, AND SEX: 1968

Category	Yes Post-MLS		Yes Ph.D.		Yes to Either Post-MLS or Ph.D.	
	No.	%	No.	%	No.	%
Type of Position						
Administrators (N=230)	73	31.73	36	15.65	85	36.96
Non-Administrators (N=135)	49	36.29	23	17.04	57	42.22
Sex						
Male (N=96)						
GS 9 (N=17)	8	8.33	6	6.25	9	9.38
GS 10,11 (N=30)	9	9.37	8	8.33	14	14.58
GS 12-14 (N=49)	16	16.66	13	13.54	21	21.88
Subtotal (N=96)	33	34.38	27	28.13	44	45.83
Female (N=269)						
GS 9 (N=98)	35	13.01	10	3.72	38	14.13
GS 10,11 (N=110)	42	15.61	17	6.32	47	17.47
GS 12-14 (N=61)	12	4.46	5	1.86	13	4.83
Subtotal (N=269)	89	33.09	32	11.89	98	36.43
Grade Level						
GS 9 (N=115)	43	37.39	16	13.91	47	40.87
GS 10,11 (N=140)	51	36.43	25	17.86	61	43.57
GS 12-14 (N=110)	28	25.45	18	16.36	34	30.91
TOTAL	122	33.42	59	16.16	142	38.90

FIGURE 5

CONDITIONS LISTED BY RESPONDENTS AS NECESSARY FOR THEIR ENROLLING IN A ONE-YEAR POST-MLS LIBRARY SCIENCE PROGRAM: 1968



The conditions that the respondents listed as necessary for their enrolling in a one-year post-MLS library science program are charted here. Of the 365 Federal librarians in the study 33.4 per cent indicated an interest in a one-year post-MLS program. Of the 122 respondents who said they would enroll for such a program, 111 respondents listed necessary conditions. This chart shows the percentage of respondents listing factors in the clusters given above. The total percentages of the columns do not add up to 100.0 per cent as some respondents listed more than one condition.

Source: Appendix Table XXIII

The second largest group of responses stated leave of absence as a condition for enrollment. These 25 respondents (20.5 per cent) wanted assurance that their jobs would be waiting for them on the completion of the post-MLS program.

The third largest cluster of responses was related to the curricular program of the one-year post-MLS program. Twenty-one respondents, or 17.2 per cent, listed conditions relating to the library schools' obligation for building a program. The largest sub-group in this category related to the quality of the program. Because stipulations relating to curriculum are particularly important in regard to this study, some examples of the type of answers given follow:

> Courses must have "real" content, as opposed to the dull, tedious and empty content of courses I had in the MLS program.
>
> I will only return if I have an indication of tangible evidence that the courses are more sophisticated and advanced than MLS programs... Practicing librarians lose enthusiasm for scholarship and intellectual endeavor. Their work becomes simply a job. Perhaps enforced continuing education, similar to the requirement that teachers have, might be helpful.
>
> The program must be "proven". I do not want to repeat material I have already covered at the undergraduate and graduate levels.
>
> I want to be sure the program has adequate research in progress.
>
> If I return, I want an indication that there will be tangible results in terms of increased job opportunities.
>
> I want to be able to use any post-master's credits toward a Ph.D., if I should decide to go on for that.

Nineteen of the respondents (15.6 per cent) were concerned with scheduling of courses. The emphasis was on flexible scheduling which would permit the respondents to keep their jobs and attend at night, on Saturdays, and on a part-time basis.

The remainder of the conditions cited related to location (close to home), which was mentioned by nine respondents; satisfactory home situation, which was listed by three respondents; and a support staff in the respondent's library to carry on efficiently in his absence (two respondents).

Before leaving this section, it should be noted that the large majority of those saying they would enroll for the post-MLS program appeared to desire to retain contact with their present employer. This suggested a point to raise in interviewing top-level administrators of libraries. If they realize that the general feeling of librarians in the Federal service is that they intend to come back to the same library with improved skills and knowledge, rather than use this training as a stepping stone to another library situation, these managers might be inclined to encourage participation and not see it as a threat to their own programs.

Number Expressing Willingness to Engage in Doctoral Programs in Library Science.

Out of the 365 individuals in the study, 59 (16.2 per cent) indicated an interest in enrolling for a doctoral program in library science. The breakdown of the answers by sex, type of position and grade level (Table 38) shows several factors that are itemized below. However, it must be borne in mind that the total number of people willing to study in a doctoral program in library science is small, compared to the number interested in a post-MLS one-year program; and, therefore, the conclusions here have much less reliability. Nevertheless, and bearing this limitation in mind, some general statements would seem warranted:

-- A smaller proportion of women than of men are interested in a doctoral program. Only 11.9 per cent of the women, as compared to 28.1 per cent of the men, stated that they would enroll for a doctoral program in library science. For the one-year post-MLS program, interest of men and women was about the same.

-- The interest in taking a doctoral program was nearly the same for administrators (15.7 per cent) as for non-administrators (17.0 per cent). This parallels the finding that was made in regard to type of position related to taking a one-year post-MLS program.

-- At the GS 9 level, interest in enrolling for a doctoral program, based on the limited number of people involved, was generally lower than for higher grades. This is opposite to the pattern that pertained for the post-MLS program relative to grade level. On the basis of the limited statistics available, it would seem that those who would be most interested in a doctoral program would be men at a grade level above a GS 9.

Necessary Conditions for Enrollment. Of the 59 respondents (16.2 per cent) who stated they would enroll for a doctoral program in library science, 56 stated that certain conditions would have to be met in order for them to enroll. (Questionnaire, Part II, Question 102)

In answering these questions, the respondents indicated certain clusters of conditions as being predominant. These are summarized in Figure 6 and documented in Appendix Table XXIII.

(1) Partial financial help;
(2) Curriculum content;
(3) Satisfactory leave arrangements;
(4) Total financial support;
(5) Flexible scheduling on the part of the library school.

Because conditions necessary for enrollment are particularly important in this study, some direct quotations from the respondents regarding curriculum content follow:

> I would have to be convinced that the program was worthwhile and intellectually challenging.
>
> I would want a program that was tailored to my individual needs.
>
> There must be proven merit and need for such a program, before I would go.
>
> Because I want to study, but not just for the sake of another degree, I would need a school that offered iconoclasts in library science and no more unpurposeful busy work.
>
> I would want reasonable freedom in selection of courses; I would like to pursue independent study.

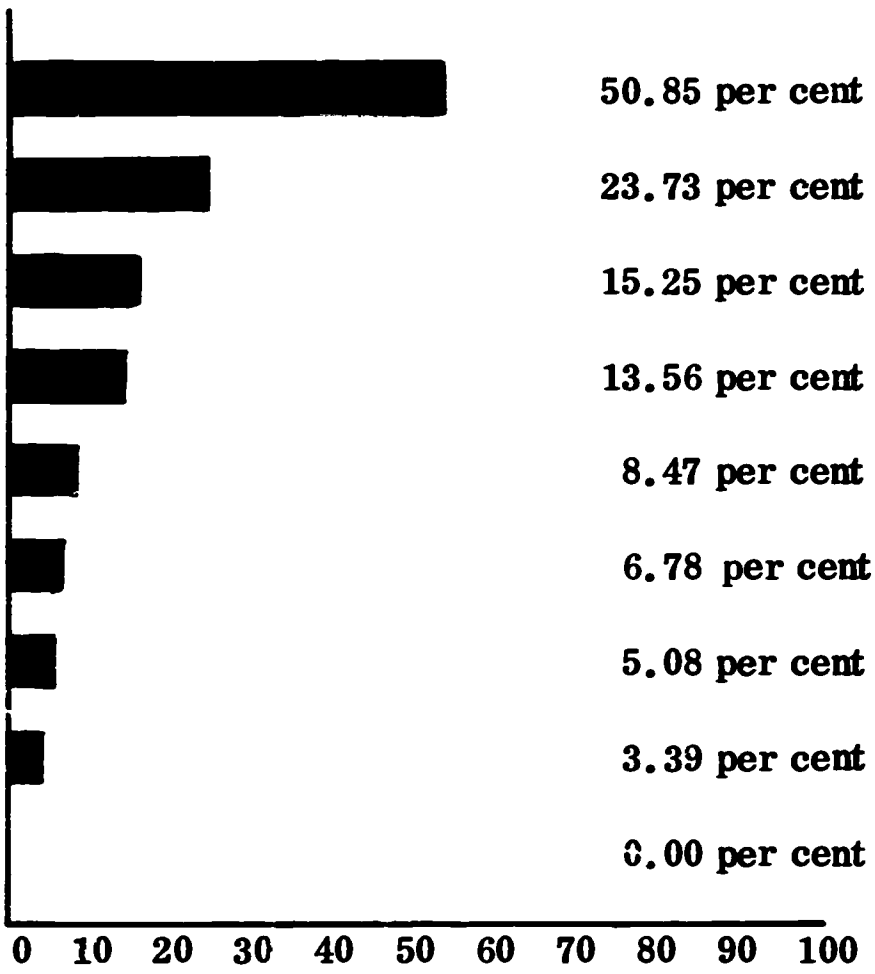
Interest in Graduate Programs in Fields of Study other than Library Science.

When queried about their interest in postgraduate work in fields other than library science: 40 (11.0 per cent) said they would enroll in a doctoral program; 106 (29.0 per cent) would enroll in programs below the doctoral level. The disciplines in which they showed interest are presented in Table 39.

For programs below the doctoral level, administration and management

FIGURE 6

CONDITIONS LISTED BY RESPONDENTS AS NECESSARY FOR THEIR ENROLLING IN A DOCTORAL PROGRAM IN LIBRARY SCIENCE: 1968



The conditions that the respondents listed as necessary for their enrolling in a doctoral program are charted here. Of the 365 Federal librarians in the study, 16.2 per cent indicated an interest in a doctoral program in library science. Of the 59 respondents who said they would enroll for such a program, 56 respondents listed necessary conditions. This chart shows the percentage of times of respondents listing factors in the clusters given above. The total percentages of the columns do not add up to 100.0 per cent as some respondents listed more than one condition.

Source: Appendix Table XXIII

TABLE 39

A LIST OF THE FIELDS OF STUDY AND SUBJECT AREAS (OTHER THAN LIBRARY SCIENCE) IN WHICH RESPONDENTS INDICATED INTEREST IN STUDYING AT THE GRADUATE LEVEL, WITH THE CORRESPONDING NUMBER OF PEOPLE INTERESTED: 1968

Fields of Study	Subject Areas	Number of Respondents Interested in graduate programs below doctoral level	Number of Respondents Interest in program at doctoral level
Behavioral and Social Sciences	Administration, Business	7	1
	Administration, General	12	2
	Administration, Public	5	2
	Behavioral Sciences (general)	4	0
	Communications	0	2
	History	14	9
	International Relations	0	2
	Law	5	0
	Political Science (general)	5	2
	Psychology	3	0
	Social Science (general)	5	0
	Sociology	3	0
	Urban Planning	1	0
	Miscellaneous	0	5
	Subtotal	64	25
Education		4	3
Engineering		1	0
Humanities and Arts	Fine Arts	4	3
	Foreign Languages	5	7
	Literature	12	3
	Music	0	2
	Writing	1	0
	Miscellaneous	0	7
	Subtotal	22	22
Information Science		8	2
Sciences, Basic and Applied	Biological and Medical Sciences	6	0
	Earth Sciences	0	1
	Mathematical Sciences	1	1
	Oceanography	1	0
	Subtotal	8	2
	TOTAL	107	54

[1]The table shows the number of different subject areas listed by the respondents. The total number of subject areas is greater than the total number of respondents, as some people listed more than one subject area.

(24) were in the majority; history was second (14), with literature a close third (12). At the doctoral level, history was the most popular subject area (9); the second most popular was foreign languages (7); with the third choice being administration and management (5).

Thus the courses most frequently checked by the respondents were concentrated in the behavioral and social sciences and the humanities with only 8 respondents (2 at the doctoral level) listing courses in the sciences. This distribution of courses has significance because it generally indicates that the over-all knowledge that would be added to the profession would be, except for the administration and management, in areas already heavily represented (humanities and the social sciences) within the profession, rather than additional areas which would add breadth to the coverage of various related disciplines within librarianship.

Interest in graduate study below the doctoral level reflected the same general pattern as did those interested in a one-year post-MLS program in library science, namely: as the grade increased the number who said they would enroll decreased. This is evident in the following listing:

Grade Level	Percentage of Those Interested In Graduate Study (Below Doctoral Level in a Subject Field)
GS 9	40.5 per cent
GS 10, 11	35.8 per cent
GS 12-14	23.5 per cent

Additional Ways in which the Library School Could Help in the Professional Development of Its Graduates.

The last question (Number 106) in Part II of the questionnare entitled "Your Educational Needs", asked: "In what other ways do you see that the library school could help you in your professional development?"

Only two respondents replied that the library school is probably doing enough. The general attitude of the respondents seemed to be that the library schools should be giving much more serious thought to their role in continuing education -- especially in ways that they are not presently functioning. They offered suggestions which challenged the library school not only to upgrade in quality and quantity its services to its alumni, but to the community at large. Some of the specific suggestions made have been grouped to suggest the wide scope of additional activities the respondents thought within the realm of the school's responsibility.

On the Library School as a Clearinghouse for Information.

-- Keep in continual touch by mail through publication of information bulletins with content and substance which will keep former students in touch with the latest developments in the profession, at the school, and in the area.

-- Specific publications mentioned to mail to alumni were: acquisitions lists (in library literature); publication of pertinent "occasional papers".

-- A newsletter should be sent to all librarians of a scholarly nature which should include: review of significant publications; state-of-the-art papers; composite picture of library development as a whole--all latest trends. This would serve as a quick and valuable "current awareness tool" for everyone in the field. This, too, would be continuing education.

-- Continuing statistical surveys of the career development of the members of each class with results sent periodically to former students.

On the Library School as a Counselling Center. According to the respondents this would include the following areas: initial placement, career development, continuing placement, counselling help for older graduates in adequate placement.

On the Library School as a Discussion and Idea Center.

-- Inviting library directors to school to participate in pertinent colloquia.

-- Forum to provide a place for the presentation and discussion of professional papers so they can be reviewed BEFORE publication. There could be organized by subject interest in various geographical locations.

On the Library School as an Educator. Even though the direction on the questionnaire was for suggestions of ways other than courses and workshops, many respondents did include comments on types of courses and their content.

-- Correspondence courses were mentioned numerous times, as they were in the open-end section of the questionnaire.

-- Conduct more surveys and find out exactly how meaningful the courses are that are being offered now.

-- Prepare outlines of selected readings on subjects so that the alumni may keep up on the job. Hard for the non-expert to sift the important from the unimportant.

-- Use modern technology to take library school courses to where people are who need them and cannot travel.

-- Survey various subject areas of value to those in the field and then offer courses that incorporate all updating that has been done.

-- Provide opportunities for the alumnus to come back to library school to observe new techniques in action and audit class lectures.

-- In all forms of continuing education, library schools should put a stronger emphasis on administration, personnel management, budget planning and automation.

-- Provide refresher courses for those who have been out of the field and now want to re-enter.

-- One year is too long. Post-master's should be concentrated into a six-month period -- or into one-quarter or one-semester programs.

On the Library School as an Agent for Upgrading Librarianship.

-- Use its influence to encourage attendance of librarians at association meetings.

-- Take the lead in writing a pamphlet clearly defining various working groups in the library -- professionals, supporting staff, etc.

-- Actively work for librarians to receive academic status in university situations.

-- More careful screening of applications for admission to school. By getting activists, not cast-offs from other professions, the whole profession could be upgraded. The library school must bear a large share of the responsibility for the image that librarians have today because of their admission policies.

-- Impress on administrative personnel that professional librarians should not be given clerical duties.

On the Library School in the Community.

-- Offer consultants for local associations and other groups planning workshops and training sessions, and consultative service for practicing librarians.

-- Give lectures on new trends in librarianship to staffs of libraries in the area.

-- Think through and devise new library concepts of service which result in reaching the functionally illiterate in our society. More stress on readers' services at all levels and to all groups.

On the Library School as an Implementor of Effective Legislation.

-- Actively work for the continuation of grants for study.

-- Bring influence to bear on Congress and the Civil Service Commission to bring about needed reforms in areas of remuneration for continuining education engaged in ; anti-intellectualism; upgrading of library technicians.

VARIABLES RELATED TO INTEREST IN POST-MASTER'S PROGRAMS IN LIBRARY SCIENCE

The question arises, "What variables are related to interest in taking a one-year or more post-master's program?" Two variables were selected to test if any prediction might be made from them concerning participation. One of them did prove a basis for prediction and the other did not. The results of these two analyses are reported on in this section.

Relationship of Willingness to Take a Post-Master's Program in Library Science to Distance from the Nearest Accredited Library School.

One variable was distance from an accredited library school, and the premise tested was whether or not this had any association with willingness to participate in a post-master's program.

The research staff determined the distance from an accredited library school for every individual respondent in the sample since this information was not available from the questionnaire. Statistical analysis was made, using these figures, to see if distance from an accredited school had any relationship to expressed willingness to take a post-MLS program. The particular test used was x^2 (chi-square). It was found that these two variables were statistically independent of each other, indicating that distance from a library school does not influence one's decision to enroll in post-MLS programs. Table 40 presents this data.

Relationship of Formal Continuing Education Completed to Willingness to Take a Post-Master's Program in Library Science.

The other variable was the extent of formal course work undertaken

TABLE 40

DISTRIBUTION OF RESPONDENTS ACCORDING TO WILLINGNESS TO TAKE A POST-MLS PROGRAM IN LIBRARY SCIENCE AND DISTANCE FROM THEIR NEAREST ACCREDITED LIBRARY SCHOOL: 1968

Distance of Place of Work from Accredited Library School	Respondents Interested in Post-MLS Study (including Ph.D. Study) in Library Science		Respondents Not Answering Question or Stating Not Interested in Post-MLS Study in Library Science	
	No. (N=142)	%	No. (N=223)	%
0- 30 Miles	84	59.16	139	62.33
31-100 Miles	23	16.20	42	18.83
Over 100 Miles	18	12.68	31	13.91
APO	17	11.97	11	4.93
TOTAL	142	100.00	223	100.00

x^2= 0.12 (Excluding APO) Insignificant

---

after the MLS. In order to determine whether there was any relationship between having taken formal course work since the completion of the MLS degree and an expression of willingness to take a post-MLS program, the respondents were asked in the questionnaire to note participation in all formal study (in any subject area) following their MS in LS. Such study included formal courses for credit, non-credit courses and participation in institutes, workshops and seminars. As shown in Table 41, 57.3 per cent of the respondents indicated that they had not taken any formal course work either in library science or in other subject areas since the completion of their MLS degree.

Of those participating in the study, 15.1 per cent of the respondents indicated that they had taken six or more hours of formal course work for credit (indicated in Table 41 as "some formal course work"); and 27.2 per cent had either taken six hours of formal course work and/or had particated in one or more institutes, workshops or non-credit courses (indicated in Table 41 as "very little formal course work"). A summarization of these findings is given in Figure 7.

A statistical analysis was made of the relationship between those (39 per cent of 365) in this survey who expressed the intention of taking post-MLS work (including willingness to participate in a doctoral program) and those respondents who had engaged in some type of

TABLE 41

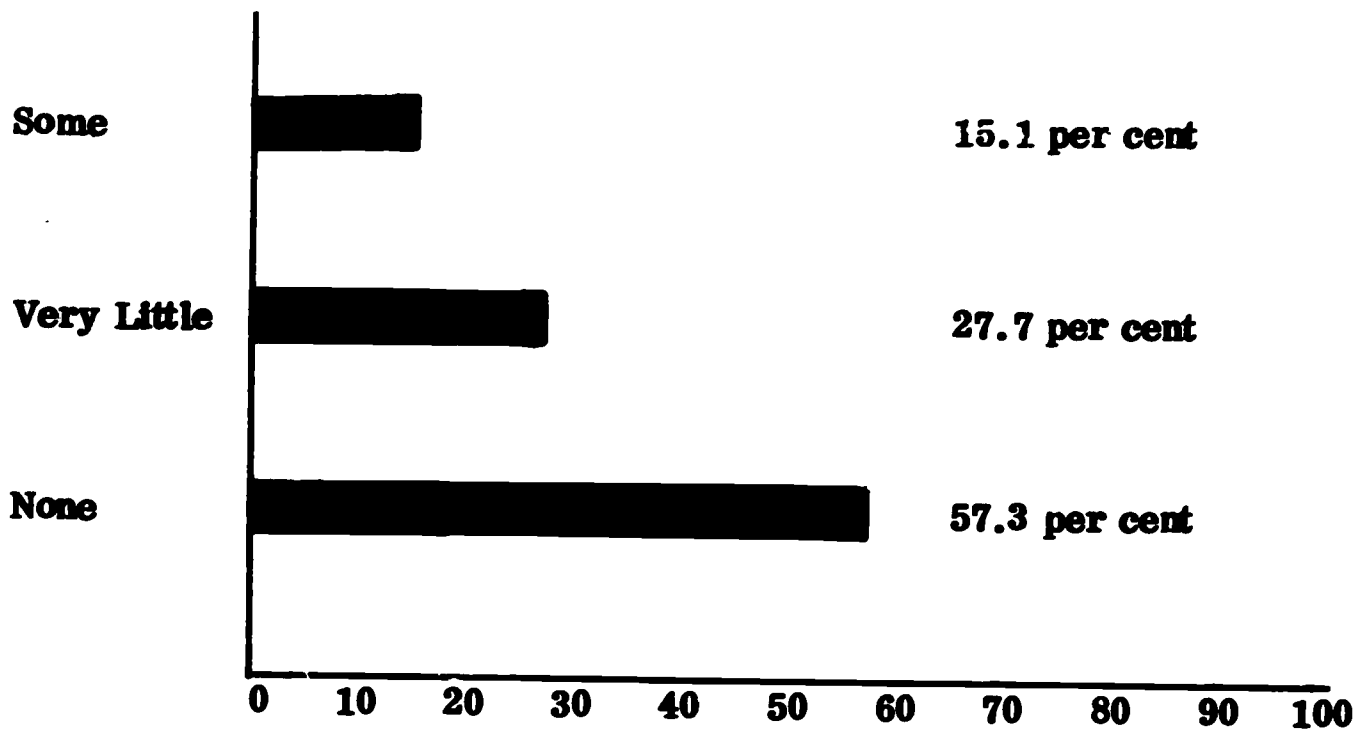
AMOUNT OF FORMAL STUDY ENGAGED IN BY RESPONDENTS FOLLOWING MLS DEGREE BY TYPE OF POSITION AND GRADE LEVEL: 1968

Amount of Course Work Following MLS	Type of Position				Grade Level						Total Respondents	
	Administrative		Non-Administrative		9		10, 11		12-14			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Some Formal Course Work[1]	36	9.86	19	5.21	9	2.47	23	6.30	23	6.30	55	15.07
Very Little Formal Course Work[2]	72	19.73	29	7.94	22	6.03	51	13.97	28	7.67	101	27.67
No Formal Course Work	122	33.42	87	23.84	84	23.01	66	18.09	59	16.16	209	57.26
TOTAL	230	63.01	135	36.99	115	31.51	140	38.36	110	30.13	365	100.00

[1]Six or more hours of formal course work for credit.

[2]Under six hours of formal course work and/or participation in one or more institutes or workshops or non-credit courses.

FIGURE 7
AMOUNT OF FORMAL STUDY ENGAGED IN BY RESPONDENTS FOLLOWING MLS DEGREE: 1968



The formal study attainments of the Federal librarians responding to the study as of the year 1968 are charted here. The category "Some" represents six or more hours of formal course work for credit. The category "Very Little" represents under six hours of formal study and/or participation in one or more institutes, workshops, or non-credit courses.

Source: Table 18

TABLE 42

DISTRIBUTION OF AMOUNT OF FORMAL STUDY ENGAGED IN BY RESPONDENTS FOLLOWING MLS DEGREE VS. EXPRESSED INTENT TO ENGAGE IN POST-MLS FORMAL STUDY: 1968

Amount of Formal Course Work Following MLS Degree	Expression of Intent to Take Post-MLS Work				Total	
	Yes		No			
	No.	%	No.	%	No.	%
Some formal course work[1]	28	7.67	27	7.39	55	15.07
Very little formal course work[2]	51	13.97	50	13.69	101	27.67
No Formal course work	63	17.26	146	40.00	209	57.26
Total	142	38.90	223	61.09	365	100.00

Chi-square is 15.78, which is significant at the .01 level.

[1]Six or more hours of formal course work for credit.

[2]Under six hours of formal course work and/or participation in one or more institutes or workshops or non-credit courses.

---

formal study following their MLS degree. It was found that there is a statistically significant relationship between the amount of formal course work taken since the MLS degree and the expression of intent to take a post-master's program. That is to say, if the respondent has taken no formal course work since his MLS degree, he is less apt to engage in any kind of a post-master's study than the respondent who has taken some kind of formal course work since the completion of his MLS degree. (Table 42)

SELF-PERCEIVED DEFICIENCIES IN PROFESSIONAL TRAINING

In the questionnaire two questions were designed to give those who plan post-MLS programs an idea of gaps in the librarian's training which are especially notable in his present position. The answers to these two questions are presented in this section.

Deficiencies in Formal Scientific, Technical or Professional Courses.

The respondents were asked:

> ARE THERE ANY FORMAL SCIENTIFIC, TECHNICAL, OR PROFESSIONAL COURSES WHICH YOU LACK WHICH YOU FEEL WOULD HAVE BEEN ESPECIALLY HELPFUL IN YOUR POSITION: [ ] Yes; [ ] No.

If yes, please specify courses or course areas:
(Questionnaire, Part III, Question 49, Page 1)

Of the 365 respondents in the study, 177 (48.5 per cent) listed courses which they lack and which they feel would have been especially helpful to prepare them for their present positions. Out of this 177, 93 respondents (52.5 per cent) listed one course, and 52 (29.4 per cent) listed two courses. Five was the greatest number of courses specified on any one questionnaire.

It is interesting to note that of the 177 responding to this question, 119 (67.2 per cent) are administrators, and 58 (32.8 per cent) are non-administrators. This ratio of administrators to non-administrators is nearly the same as the ratio in the over-all sample.

The library science courses the respondents felt to be most needed and usually unavailable were:

(1) Scientific and technical literature and research (31 respondents)
(2) Automation of library processes (26 respondents)
(3) General management (22 respondents)
(4) Biomedical literature and research (17 respondents)
(5) Personnel administration in libraries (16 respondents)

When the answers in this section are categorized by major subject areas, the greatest gaps are in these areas:

(1) Specialized information sources (77 respondents)
(2) Administration and general management of libraries (54 respondents)
(3) Automation (50 respondents)
(4) Cataloging and classification (11 respondents)
(5) Indexing and abstracting (10 respondents)

Forty-six respondents, or 26.0 per cent of those listing gaps mentioned specific subject areas outside the field of library science. Just over half of these respondents (24) listed courses in the area of foreign languages, with German and Russian being noted the most often. Table 43 shows a breakdown of these gaps, first by library science areas and second by non-library science fields of study.

TABLE 43

DEFICIENCIES IN FORMAL SCIENTIFIC, TECHNICAL OR PROFESSIONAL EDUCATION AS EVALUATED ACCORDING TO COURSE AREAS BY TYPE OF POSITION: 1968

Course Areas	Number of Times Course or Course Area Listed by Respondents[1]		Total
	Administrative	Non-Administrative	
Library Science Areas:			
Specialized Information Sources	46	31	77
Administration & General Management of Libraries	46	8	54
Automation	32	18	50
Cataloging & Classification	5	6	11
Indexing & Abstracting	3	7	10
Administration of Special Types of Library Services	8	1	9
Housing & Equipment	7	0	7
Systems Analysis	6	1	7
Acquisitions & Selection	5	1	6
Research	4	1	5
Information Science	3	1	4
Publication	2	1	3
Clientele Services	2	0	2
Bibliography	0	1	1
Reference	1	0	1
SUBTOTAL	170	77	247
Non-Library Fields:			
Humanities & Arts			
Foreign Languages	12	11	23
Miscellaneous	3	0	3
Sciences, Basic & Applied	4	5	9
Behavioral & Social Sciences	2	3	5
Miscellaneous	3	2	5
Engineering	1	0	1
SUBTOTAL	25	21	46
TOTALS	195	98	293

[1]The total number of respondents answering was 177. Of these 119 were administrative respondents, and 58 were non-administrative.

Unperformed Job Activities Due to Lack of Training.

A question about educational background was phrased as follows:

> IN RELATION TO YOUR PRESENT POSITION, ARE THERE ANY ACTIVITIES YOU SHOULD BE ENGAGED IN FOR WHICH YOUR PREVIOUS TRAINING HAS NOT PREPARED YOU?
> [ ] Yes; [ ] No.
>
> If yes, please specify these activities.
> (Questionnaire, Part III, Question 50, Page 11)

Out of the 365 respondents in the study, 81, or 22.2 per cent, specified activities they should be engaged in, but are not because their previous training had not prepared them. Out of these 81, 58 respondents (71.6 per cent) listed only one activity, while only 16 respondents (19.8 per cent) listed two activities. Five was the greatest number of activities specified on any one questionnaire.

It is interesting to note that of those 81 listing activities they felt they should be engaged in but are not, 62, or 76.5 per cent, were administrators and 19, or 25.5 per cent, were non-administrators. This is a higher ratio of administrators to non-administrators than is the ratio for the entire sample. Thus, there is some evidence that an administrator was more likely to feel that he should be engaged in activities in his present position for which his previous training had not prepared him.

The answers given by the respondents were coded by the job activities as listed in Part I of the questionnaire. Table 44 shows these job activities listed by the respondents grouped under the 21 types of job activities listed in the questionnaire. The three needed areas of competence receiving the most mention were as follows:

Automation	-- 23 respondents listed 23 job activities
Representing	-- 20 respondents listed 23 job activities
Planning	-- 10 respondents listed 11 job activities

The proportionately large number of people indicating automation was not surprising in view of the answers to question 49, where automation courses were felt to be lacking by 28.2 per cent of those indicating a gap in their education. It is interesting to note that of the 23 respondents stating inability in automation, 20 were administrators. This would seem to further illustrate the importance of automation in the curriculum at both the MLS and the post-MLS levels.

TABLE 44

NUMBER OF RESPONDENTS LISTING ACTIVITIES THEY SHOULD BE ENGAGED IN FOR WHICH THEIR PREVIOUS TRAINING HAS NOT PREPARED THEM BY TYPE OF POSITION: 1968

Job Area Heading	Type of Position		All Together (N=81)
	Administrative (N=62)	Non-Administrative (N=19)	
Specialized Library Functions:			
Abstracting	2	0	2
Acquisitions	4	0	4
Bibliography	1	0	1
Cataloging and Classification	3	2	5
Circulation	0	0	0
Clientele Services	3	1	4
Indexing	2	0	2
Literature Searching	3	0	3
Maintenance of Holdings	3	0	3
Reference	2	1	3
Research	1	1	2
Selection	2	0	2
Translation	0	1	1
General Administrative and Management Functions:			
Planning	9	1	10
Organizing	4	3	7
Staffing	6	1	7
Directing	4	0	4
Coordinating	0	0	0
Controlling	2	1	3
Representing	17	3	20
Housing	2	0	2
Automation:	21	2	23

As 76.5 per cent of those listing activities unable to be performed were administrators, it is not surprising that there was a heavier concentration of these problems in the administrative and management category than in the specialized library category of job activities. Because automation cuts across both administrative and management functions as well as specialized library functions, it is listed separately in Table 44.

KNOWLEDGE, ABILITIES AND/OR SKILLS CONSIDERED MOST IMPORTANT FOR RESPONDENT'S REPLACEMENT

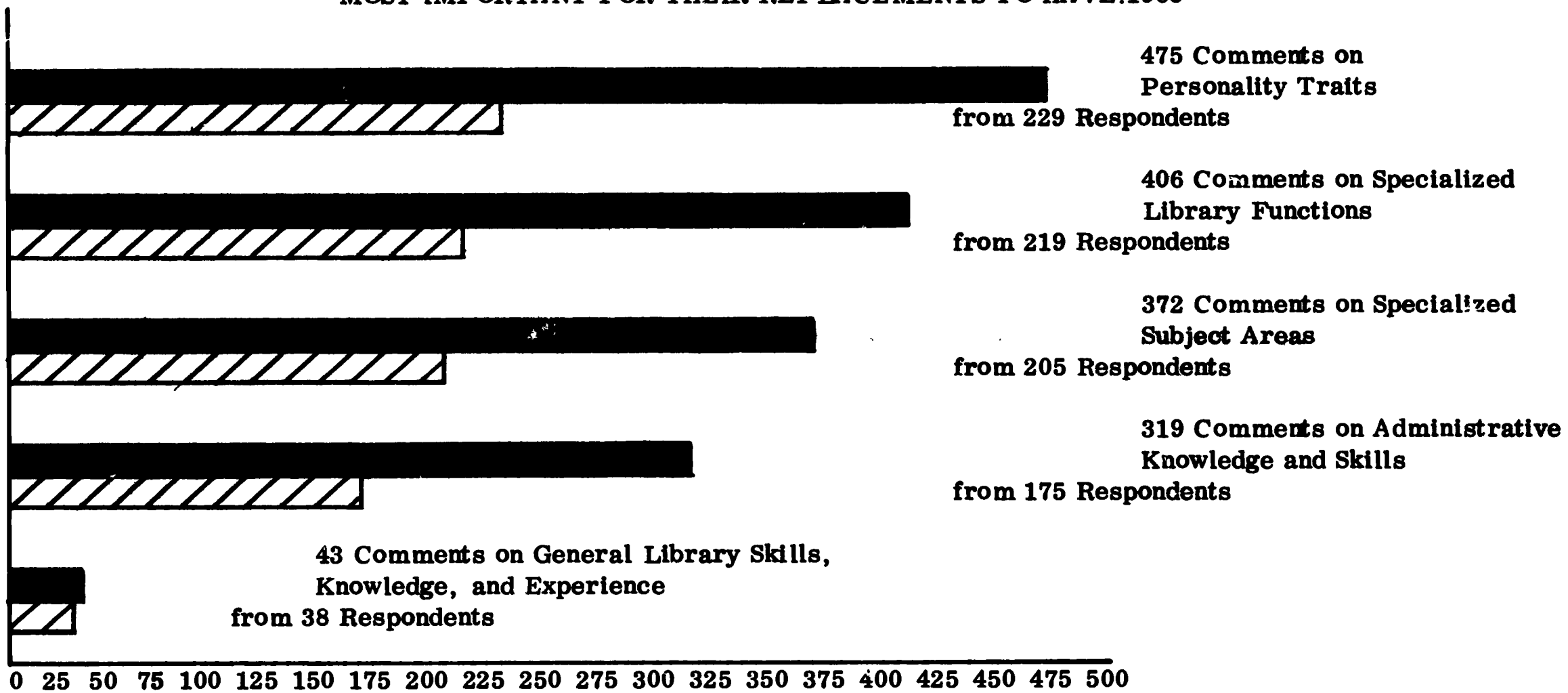
In Part III of the questionnaire, Item 78, the respondent was asked:

> Suppose you were leaving your library for another position, and the administration asked you to recommend someone as your replacement. You know that your views would weigh heavily in the final decision. Let us assume that you are leaving your present position with great reluctance and that you have great affection for your library. Hence, you want to see yourself replaced with the type of person most likely to do a top-notch job after you have gone. Keep in mind also, the changes that you foresee coming and the necessity of your replacement anticipating and adapting to these changes.
>
> BASED ON THESE CONSIDERATIONS, WHAT KNOWLEDGE AND WHICH ABILITIES OR SKILLS WOULD YOU CONSIDER MOST IMPORTANT FOR YOUR REPLACEMENT TO HAVE?
>
> A. Most Important Knowledge B. Most Important Abilities and/or Skills

This question was answered by 313 or 85.8 per cent of the respondents. Of these, 306 offered comments under section A, "Most Important Knowledge", and 298 respondents entered remarks under "Most Important Abilities and/or Skills". From the 313 librarians answering this question, a total of 1615 comments were written, 809 under "Most Important Knowledge" and 806 under "Most Important Abilities and/or Skills". It should be stated at this point that in the respondent's mind there did not always seem to be a clear distinction between "knowledge" and "skills and abilities". In discussing the comments, these two categories - A (knowledge) and B (skills and abilities), will be discussed together, but in Appendix Table XXIV, which surveys this data, the distinction is made in every case between A and B as presented in the questionnaire.

From an examination of Figure 8 and Appendix Table XXIV it is possible

FIGURE 8
SUMMARY OF RESPONDENTS' EVALUATION OF KNOWLEDGE, ABILTIES, AND SKILLS
MOST IMPORTANT FOR THEIR REPLACEMENTS TO HAVE:1968



Source: Appendix Table XXIV

In answer to Question 78, Part III of the questionnaire, 313 (85.8 per cent) of the 365 respondents made 1615 recommendations of which 29.4 per cent were related to personality traits, 25.1 per cent were related to specialized library functions, 23.0 per cent related to specialized subject knowledge; 19.8 per cent related to administrative knowledge and skills; and 2.7 per cent concerned general library skills, knowledge and experience. Of the 313 respondents answering this question, 229 respondents (73.2 per cent) listed personal characteristics.

to see why it was important to include this question in the instrument. Some additional facts are brought out here which are not found anyplace else in the respondents data. The main findings that are either additional or present a different point of view from results obtained elsewhere in the study, are emphasized in this analysis.

Probably the most striking result from the replies to this question is the emphasis that the respondents placed on personal characteristics required on the job. Of the 313 answering the question, 229 (73.2 per cent) listed items in this area. (Figure 8) It is interesting to note that whether the respondents are analyzed by grade, by agency or by stratum, in each category there is a representative response in this area. (Appendix Table XXV) The number is particularly noticeable when compared with the importance the respondents placed on experience (Appendix Table XXIV), which was mentioned the least number of times by the respondents.

In the current literature on curriculum building, little emphasis has been found relating to personal characteristics, but Peterson does state that in building curriculum in addition to other factors "personal characteristics required by the job, such as a high degree of accuracy, above-average mental application, creative ability, and use of independent judgment "... should be used as criteria. (Ref. 8:8) Hall, in studying the educational objectives for the public service librarian, set up 5 major classes against which education for public librarianship might be measured and analyzed, one of which was personal traits. But he immediately commented, "no consideration of them in relation to education objectives will be included in the analysis." (Ref. 5 :42) This statement is explained: "Personal traits are not considered the 'learned' knowledges which fall within the cognitive domain and were not originally intended for inclusion in this study. However, as is often the case in service-oriented institutions, they were reflected, at least indirectly, in so many descriptions of incidents that acknowledgement of their existence is hereby noted." (Ref.5)

Specifically, the personality traits ranking the highest were: getting along with people, which was mentioned by 114 of the 229 respondents who answered this section of the questionnaire; adaptability or flexibility , mentioned by 38; patience by 22; dedication and loyalty by 18; and fortitude, which was listed by 10.

One of the surprising features of this particular analysis was the small number of times knowledge or skill in automation was mentioned, whereas the demand for courses in this area is so marked. Automation was listed 39 times, but cataloging, for example, was listed 134 times by the respondents, and reference 87 times. In the section where it appears there are 409 responses, and automation accounted for only 9.5 per cent of them.

A possible explanation of this might be that the respondents did not actually need automation in their present work, but indicated great interest in taking formal study in this area because they feel that in the future, possibly in their present jobs, they may need such comprehension. They perhaps feel insecure without it, but don't see it as a present necessity.

It was also rather surprising to find the humanities receiving such a high score at a time when there is so much emphasis on the sciences in Federal libraries. When the responses are analyzed by agency, an explanation for this can be found. Thirty-one of these comments were in the area of foreign languages and were made by those working at the Library of Congress where there is a constant demand for expertise in translation.

A final area that deserves comment is the recommendations for successors in the areas of administrative knowledge and skills, where there was a heavy concentration (85 items) in personnel supervision and human relations. Also, the problems of dealing with the government itself were mentioned 53 times. In the area of administration a total of 319 suggestions were made. The findings in this area, however, coincide with the emphasis placed in all other parts of the study on the need for ability, skill and knowledge in this area.

In summary, the answer to this question provided valuable information about the kinds of people that are wanted and needed in library positions.

CONTENT ANALYSIS OF OPEN-END SUGGESTIONS REGARDING A POST-MLS PROGRAM IN LIBRARY SCIENCE

The last page of the questionnaire asks for the respondent's ideas and comments on the study as a whole. Three-hundred-and-fifty-two suggestions were volunteered in answer. These were suggestions which definitely aid in attaining the objectives of the study. Slightly over 50 per cent of these (181 comments) related to curricular development. These comments have been edited and summarized to express those ideas which appeared to be fairly universal, or those that were original and unique. The degree of attention given to various areas, as indicated in Appendix Table XXVI, is in itself interesting and affords one type of evidence of the importance attached to the various items mentioned by the respondents.

Some of the areas commented upon are: (1) suggestions regarding non-library science study; (2) work-study programs; (3) doctoral programs; (4) general comments about continuing education in a university setting; (5) comments relative to time, location, and format of courses; (6) attitude toward post-MLS study; (7) undergraduate admission requirements

for the MLS program as they affect post-MLS study; (8) suggestions regarding library technicians; (9) reactions to the study as a whole; and (10) should other similar groups be surveyed?

Suggestions Regarding Non-Library Science Study.

Twenty-eight of the respondents spoke of the importance of studying in subject fields other than librarianship. Sixteen made statements similar to the following, listing preferences such as language, business, mathematics, finance, banking and chemistry.

> Some research libraries will not employ librarians for their libraries because of lack of appropriate subject background among professional librarians.

> At present almost any offering in philosophy, humanities, history of ideas, aesthetics in art or music, to name a few, seems more intellectually interesting (than a program just in library science). (Administrative librarian)

> Although when I started out, I found library work interesting, satisfying and sufficient; with increasing administrative duties, which for me are low in intellectual appeal, I now find library work insufficient. Rather than pursuing further study in the library field, I am now more likely to continue in philosophy and humanities. (Administrative librarian)

> I don't feel that library education beyond the master's degree can compare in value with an advanced degree in a subject area -- subject specialization is of highest importance. (Reference librarian)

The chief ideas presented in the other twelve comments concerning non-library science courses are expressed in the following statements:

> What is needed is a sabbatical year, or a half-year, in order to get outside the library itself. This time could be used to study in other subject areas or to travel or to do research. Such a program is rarely possible without resigning one's job. We need outside contacts. (Administrative librarian)

> I have earned fifty graduate credit hours in non-library subject fields. It seems much easier for other types of professionals to continue their education than librarians. I investigated post-graduate programs in library science, but few were even relevant,

so took work in other subject areas. (Administrative librarian)

Patrons want to talk to someone in a library who understands their subject field. This probably would mean advanced degrees in subject fields (not library science). This should mean such specialized subject courses every six or seven years. (Reference librarian)

There should be some control over electives. Courses should be selected from areas that are based on needed knowledge and skills in libraries, such as personnel management, report writing, technical reports, languages. (Head librarian)

There should be available an optional "survey course" which could be comprised of "guest" lecturers from the various university subject areas. Each "guest" lecturer would give lectures for one week (two or three sessions) covering the basic subject matter, terminology, etc. of his particular speciality (e.g. nuclear physics, biology, botany, geography, anthropology, etc.) This would provide outstanding benefits to those in specialized libraries and also for reference librarians in non-specialized libraries. (Cataloger)

Work-Study Programs.

Three respondents pointed out the value of imaginative work-study programs in such terms as the following:

The library school should offer a work-study program rather than just theoretical study. Recent graduates under my supervision have no concept of the service part of the librarian's job in order to satisfy partrons' needs. Too much emphasis is on"professional" duties -- vs. "non-professional" duties. They should be willing to learn and know so-called non-professional duties in order to perform better as "professionals" and supervise personnel. (Head librarian)

Doctoral Programs.

As there were only four specific suggestions relating to the doctoral program, each of these has been summarized below. Two of these emphasize the research orientation of such programs and the other two benefit administrators in the field who wish to gain proficiency for their positions.

Existing doctoral programs are exclusively research oriented. There is a parallel need to impart a higher level of training to

those who will actually be operating at a high level in the field, which will give them increased ability and skill in the real-life library situation. This type of program should be conceived and planned in a manner similar to the Doctor of Business Administration programs. (Library administrator)

Doctoral education, or a post-MLS program, should be built around symposia: colloquia involving both faculty, practicing library administrators, and graduate students. Interaction of these personnel in problem-solving, decision-making processes (using case studies), preparing staff studies, rounded off with visits to appropriate institutions and rotating internships would add to the viability of such a program. (Head librarian)

Both the doctoral program and the sixth-year program could conceivably be largely research oriented, with part-time residence at one of the "think-tanks" such as Hudson Institute, Rand, or Arthur D. Little, where candidates are engaged in interdisciplinary research in relation to information science. (Head librarian)

The doctoral program in library science should be scholarly and research based, requiring a knowledge in depth of previous work. Such a program should make a new contribution to the profession. It should not be merely an inflated MLS. It should also possibly include broad cultural and scientific knowledge not directly in the field of library science; for example, a survey of the advancement of knowledge throughout history. (Bibliographer)

General Comments about Continuing Formal Education in a University Setting.

Thirty-three suggestions were made to library educators covering a wide range of subjects.

-- In the area of curriculum development there were four general suggestions, five comments on the relation of theory to practice (three emphasizing the practical, and two a balanced relationship between theory and practice), and five statements stressing the importance of specialization. Sample statements of the main ideas expressed in these areas follow:

> Library school deans should meet together and evolve a standard curriculum -- a truly professional curriculum so that graduates of master's and post-master's programs will no longer have to compete with business and education majors for library jobs. (Cataloger)

In my opinion, continuing education for practicing librarians might be divided into two fields.

(1) For newer graduates, programs to keep them abreast of new policies and practices in literature, subject areas, technical processing, automation.

(2) Comprehensive courses in automation, government documents and other fields which older professionals did not have the opportunity to take and which the younger professionals may not have been able to work into their MLS schedules. (Library administrator)

Library schools should always be broad-based in their curricula, because one never knows in what type of specialization he may work. (Library administrator)

Continuing formal education is not only an excellent idea -- it is essential to professional awareness and advancement. But it should be geared to practical applications. (Library administrator)

Courses must cover both theory and practical application. (Library administrator)

-- Five respondents stressed the importance of specialization in today's library in such terms as the following:

The library school must take cognizance of areas of specialization -- perhaps this would require lengthening the period of education, but it seems to me that librarianship is now much too diverse to avoid specialization. The content of courses for different types of libraries should be different. (Head librarian)

It seems to me that specialization should be handled by certain library schools specializing in training people for college, for public, for school, or for special librarianship. (Head librarian)

In the post-master's degree, specialization should be in a subject field, whether it be chemistry, literature or languages. This might be worked out through part-time programs developed across the country, so that this would be possible, and one could keep one's job. (Cataloger)

Since libraries are becoming technological and scientific information centers, science subject matter should be incorporated in all degree programs. (Bibliographer)

-- Nine respondents mentioned ideas related to methodology recommendations.

> Please try to eliminate "busy" work for more practical course assignments which are geared to a particular size and kind of library in which the individual proposes to work. If he masters one kind of library situation successfully, I believe he can successfully change to another kind of library. (Cataloger)
>
> Stress reading, reading, reading. There should be mostly discussion courses with very few students enrolled so that individual attention can be given to them, and their reading can be individually directed. There should be few written papers. (Cataloger)
>
> Do not "over-teach" rules created by other librarians. A rule should be only a means to an end -- not an end in itself. (Library administrator)
>
> Similar to student teaching programs, practical training or internship programs should be provided for the librarian. (Library administrator)
>
> The school should provide more opportunities for the individual to actually see other librarians at work in the field. (Cataloger)
>
> Courses must be taught in reference to all types of materials and media, not just conventional printed materials. (Head librarian)
>
> Attention should be focused on problems and projects such as how to deal with adverse situations, such as low budgets. The library school tends to present everything from the ideal standpoint which is very unrealistic. (Head librarian)
>
> The post-MLS program should be conducted through seminars in the theory of library work, new developments in the field, place of automation, and personnel administration. (Head librarian)
>
> The course work should not be concerned with things that can be more easily and better learned on the job. (Librarian)

-- Two respondents urged innovative approaches.

There are too few new ideas advanced in libraries as too much time is wasted on detail, and there is little rapport among professional librarians. This shows lack of administrative ability to create an environment that fosters creativity. Courses should be revamped to teach professionals in this area. Conventions offer little help here. (Library administrator)

Any courses offered at a university in continuing education for the librarian should take into consideration past experiences and offer something really new and challenging -- not just a rehash of the same old ideas taught the same old way. (Head librarian)

-- The responsibility of the library school to be concerned about the development of personal traits and attitudes was stressed by three respondents:

Librarians must be taught to be more flexible. If they were more responsive to user needs, perhaps it would not have been necessary to have created information centers. (Library administrator)

I would suggest that in all library school curricula great emphasis be placed on personal integrity, dedication to service, and above all, respect for human dignity and proper expression of appreciation for work well done. (Library administrator)

Librarians must be concerned with the philosophy of librarianship. More concern must be given to service to patrons and less to performing other "professional duties". (Head librarian)

-- The remaining five suggestions covered additional points as summarized below:

Professional certification should be formalized by a certificate from ALA/SLA with a five-year renewal dependent upon continued study and publication. The range of competence among "professional" librarians is appalling. (Library administrator)

The library school needs to build bridges between traditional methods of library management, today's chaos, and the automated potential of tomorrow. (Head librarian)

Whatever you do, publicize to the working librarians widely and often the opportunities (and necessity) of continuing

education and the benefits that would derive. (Head librarian)

The library school needs to explain to administrators that the BLS before the early 1950's was a graduate degree. What consideration will be given to us regarding admission to post-MLS programs? (Head librarian)

Comments Relative to Time, Location and Format of Courses.

Twenty respondents were concerned about time and location factors which they saw as a major deterrent to continuing education of professional librarians. They made suggestions relative to course format, scheduling, and location of courses in order to overcome these two major obstacles. These are the chief ideas expressed:

Course Format. (6 suggestions in this area) --

To realistically reach all librarians, the university library schools must realize that non-resident courses will have to be developed of a quality nature, such as programmed instruction, talk-back TV, and correspondence courses. (Library administrator)

I am not near a library school, and although I very much want to take post-master's courses, the only way I could do it would be if I could remain in this location. I suggest TV instruction for credit as is now being done by many universities for engineers, educators, nurses and others. (Reference librarian)

Please! Correspondence courses for Federal librarians who wish to continue their education with or without credit, but are presently located where it is impossible to attend classes. (Head librarian)

I would like some reading courses -- or something based on the English system. Where I can study on my own -- then take the post-master's exam. I'm not keen on being too directed as in a master's program. (Reference librarian)

Scheduling. (8 suggestions in this area) --

Not too many people can leave their present position for various reasons. As an alternate solution a series of summer sessions could be offered (cf. Russian Studies Program at Middlebury College, Vermont, leading to an M.S. degree). Thus employees who could secure a two-month's leave of absence during the summer could still achieve the same goal at a slower pace. (Indexer)

I am very interested in obtaining a post-master's through six-week sessions -- intensive -- on a particular subject -- broken up perhaps into three-week sessions -- easy to get that amount of time on administrative leave. (Reference librarian)

Location. (5 suggestions in this area) --

Have you considered bringing the course to the librarian rather than the librarian to the course? TIME is major deterrent for librarians in continuing education. If the school could provide the instructor to go to groups of students, then travel time for working librarians would be negated. (Administrative librarian)

Why not some extension off-the-campus courses where no library schools exist? (Head librarian)

Extended Leave. (1 suggestion)--

If librarians could become eligible for a type of sabbatical leave as frequently is offered educators and for the same type of time span, librarians could then attend post-MLS program without resigning. (Head librarian)

Attitudes toward Post-MLS Study.

Seventeen respondents voluntarily offered their reaction toward post-MLS education. Of these, fifteen were strongly negative; only two were positive -- to the extent of recommending that such study be required.

Negative Attitude toward Further Study. --

For a person engaged in cataloging, particularly in a large library, very little can be gained from a formal course of instruction that would directly apply to his work. The vast majority of his day-to-day activities are concerned with the details involved in applying cataloging rules and procedures required by his particular library. Apart from some general theoretical principles, which he supposedly learned in the MLS program, and an acquaintance with current developments in the field -- which can be acquired from selective perusal of library literature -- he must depend almost entirely on actual experience to develop his working skills. (Cataloger)

Library experience is far more important than continuing formal education. (Acquisitions librarian)

Cataloging, reference, circulation, filing, etc. can be learned in any library on the job in a short time. No need for further education. (Head librarian)

When studying for my MLS, I was so bored I rarely attended lectures. Why go back? (Library administrator)

I submit that library science is only a technique that is learned quickly, then refined and sharpened by practice and common sense; if one returns to school, the important knowledge is subject knowledge in all fields. (Library administrator)

I have a very poor attitude toward my library degree -- most of my courses were simplified to the extreme, the faculty was inexperienced and/or poor teachers, and I felt after completing the five quarters that I had done nothing to earn or deserve my diploma. I have at this time no intention of ever returning to school to study library science more fully. For forty hours each week I live in a library, and I feel my time to be better spent in studying other fields. I have spoken to other degree holders who feel the same way I do about my degree. (Cataloger)

Positive Attitude toward Further Study. --

Post-MLS training should be required after one or two years experience. Then we have a better understanding of what is needed for the job. (Reference librarian)

Continuing education is essential for librarians. It should be mandatory; or encouraged by the Civil Service Commission by offering step increases or grade promotions. Courses related to an agency's mission as well as library courses are needed. Short courses or workshops should also be frequent and made available to Federal librarians in all areas. (Administrative librarian)

Although not suggested in any way by the question asked, two other areas were mentioned in the suggestions to library schools: one in the area of requirements for admission to the MLS program and the other regarding the use of library technicians.

Undergraduate Requirements. (7 suggestions in this area)

To raise professional standards do not make the entrance requirements so easy! We are surrounded by librarians who do not think that there are countries outside of the USA, but are

supposed to be making a contribution to science and advanced research in medicine. There must be more emphasis on academic preparation for librarianship if standards are ever to be raised. (Coordinator)

The greatest single deficiency is that it is possible to get, for example, a BS in physical education from some obscure but accredited school, and then with supposedly a B average, apply to library school, be accepted, and emerge with an MLS in library science -- which hardly makes one a librarian. We are fighting for consideration as so-called "professional" librarians, but we aren't educated enough to begin with to qualify. With such a background how can anyone be anything but a highly paid clerk? And to my mind this is what the vast majority of librarians are. (Administrative librarian)

One of the main problems in library education is the lack of quality of education on the part of librarians generally. A strong and broad liberal education in one of the historic disciplines should be a basic requirement. Undergraduate degrees in education, nursing, home economics, etc., leave much to be desired in furnishing a broad liberal education that is necessary for developing good librarians. (Head librarian)

Admissions policy is one of the basic weaknesses in the profession. Much more emphasis needs to be placed on applicant's subject backgrounds. We do need people with majors in things other than history and English. Such a background does not prepare one to answer reference questions in the physical sciences or the biological sciences. Some research firms will not employ librarians for their libraries because of their lack of appropriate subject background. (Catalogers)

Before admission to library school every candidate should be required to have had some practical experience in a library. Then he will have something on which to build. (Administrative librarian)

Suggestions Regarding Library Technicians. (4 suggestions)

Much of descriptive cataloging is really non-professional. An MLS degree is not required to do most of this work. Large libraries can train their own, but smaller installations need training courses. Have you given any consideration to training courses for the technicians? (Administrative librarian)

Library schools or vocational schools should include courses for technicians. (Administrative librarian)

> Any chance of developing meaningful workshops for library technicians? There is a real need for stimulation, encouragement and training of such staff -- a task which only the largest libraries can do. (Administrative librarian)

Reactions to the Study as a Whole.

The third section of the open-end comments page entitled "Your ideas for the study as a whole" directed the respondents as follows:

> We would also appreciate you general or specific recommendations as we proceed with the ultimate objective of curriculum building. After going through this material, is there anything that we have omitted to ask that you feel we should know in order to do a better job for you? This questionnaire represents input from the librarians practicing in the field. Do you have suggestions or advice on other groups we should question or interview such as supervisors, users, or officials in an agency who are served by the library? If some of your ideas seem "way-out" don't hesitate to list them, as we want to consider innovative and creative approaches as well as those that are more generally accepted.

Comments on Questionnaire. Altogether there were 96 comments distributed over all grades of which the greatest number of comments (49) related to the questionnaire itself, a favorable or neutral attitude toward the survey was manifest in 35 of these comments. Some 14 comments were unfavorable regarding some phase of the study.

Some typical positive and neutral comments were:

> I am pleased to find someone asking the working librarians what they would like to, or need to, study. (Reference librarian)

> This is a wonderful study, long overdue, and I look for significant results. (Head librarian)

> There is a definite requirement for the type of program you have under consideration. (Head librarian)

> I would like to compliment the compilers of this study. It seems to present the most exhaustive overview of all aspects of the library and information sciences. (Indexer)

> I must say that this questionnaire is impressively comprehensive and very, very thorough. I do thank you very much, for asking me to take part in this study. (Reference librarian)

Thank you for the opportunity of filling out this questionnaire, even though it is the most difficult one I have ever seen. I will be very interested in the results. Perhaps the most difficult part was the comparison of job importance. To me, every item is important. Some things that take only a microscopic part of my time are very important. (Head librarian)

If this study could reflect the need to allow a person to move into the area of his greatest ability, hence being of greater service, it would be worthwhile -- people get pigeon-holed in this field, and this is not good. (Administrative librarian)

I'll tell you, supervisors aren't so much -- they stand in need of many old maid librarians to get the work done. (Bibliographer)

There's not much emphasis on medical or hospital field. (Head librarian)

The areas covered by the unfavorable comments are reflected in the following responses:

I doubt if this study will do any more good than any of the previous studies, which have apparently done no good. These questionnaires are a terrible waste of time, and there are too many of them. (Head librarian)

The definition of "professional" is unrealistic. There are many highly educated professionals in the government without a library science degree. (Cataloger)

You seem not to recognize that a majority, or at least a large percentage of persons with professional training find themselves in subordinate positions for some time after library school, and that the needs and problems of such positions also need to be defined. (Cataloger)

Although the survey is relevant to special librarianship, it is irrelevant to public librarianship. The whole structure of the survey and actual practice of public librarianship is different. (Library administrator)

It is difficult to answer many of these questions since military libraries depend so much on the present commanding officer's feeling and attitude toward them. (Head librarian)

Survey of Other Groups. The second highest category of responses in this section related to other groups that should be questioned. These fell into three main groups: officials of agencies, supervisors, and users. In addition, there were several miscellaneous suggestions outside these three categories. In all there were thirty comments relating to obtaining input from other groups.

Of the suggestions made, the largest number, thirteen, suggested user surveys. The following comments are typical of these suggestions:

> Check on users. They are a very good measure of library service. (Library administrator)
>
> Would be significant to find out what role the users assign to the library. (Personnel librarian)
>
> Please question some honest users who won't be afraid to point out our shortcomings, and let's see what can be done about them. (Head librarian)
>
> Users should have an opportunity to participate in these interviews. Otherwise, the information obtained tends to be one-sided and biased by the librarian's point of view. Libraries should meet needs rather than just offer services. Librarians must know what these needs are, in order to meet them with maximum effectiveness. (Library administrator)

Eleven comments suggested going to agency officials and supervisors above or outside the library. Typical of these suggestions are the following:

> Find out what agency officials think of their libraries. Are they getting what they need? (Defense librarian)
>
> What role do agency officials think the library should be playing? (Public Relations)
>
> Essential to find out if agency officials think the library services are adequate. No one ever asks them. (Reference librarian)
>
> Question supervisors who are not librarians to find out what they think adequate library service should be. (Library administrator)
>
> Interview those responsible for the budget to see if it might be possible for the librarians far from a library school to take

time away from work to attend programs. (Head librarian)

Interviewing agency officials and non-library supervisors will point up library weaknesses which need attention. (Library administrator)

In addition there were others suggested as sources of information for the study: library school students, new graduates (who may be highly dissatisfied and disillusioned), contractor personnel. Three specific suggestions were:

Check on the opinion of the subordinates. I think we supervisors are pretty sure we're the greatest -- and we aren't. (Library administrator)

A study of the relationships between various types of librarians and libraries might tend to change the study and course requirements for certain groups in library schools. (Head librarian)

Believe more daring and original criticism coupled with new ideas will come from new graduate who is leaving his first job because he is dissatisfied, bored, or disillusioned. There needs to be a place for the heretic who's impatient. (Library administrator)

Deterrents to Formal Study. Five respondents stressed deterrents to formal study: nearness to retirement age, need for grants approaching salaries received, and lack of available time.

Miscellaneous Suggestions. Finally there were twelve general suggestions, including the following:

Library schools should become interdisciplinary and utilize faculty in other departments (Library administrator)

Professional associations should insist that librarians do only professional work. This would greatly decrease the shortage of manpower in the field. (Library administrator)

Perhaps enforced continuing education similar to the requirement that teachers periodically return to school would be helpful. If this is not possible, then the library school needs to initiate continual communication with practicing librarians in order to achieve a measure of continuing education. (Bibliographer)

I would like to see a survey of automated libraries. Do practicing librarians find them satisfactory? What problems turned up in automating; what solutions were found? Does automation really make for faster, more effective reference? What does automation do to staff needs? Do librarians who work in automated libraries find less or more job satisfaction than in non-automated libraries? (Library administrator)

Library schools need to "loosen up", concentrating on needs rather than concentrating on formal academic programs leading to a degree. (Head librarian)

Library school teachers should visit libraries and observe anonymously daily routines and problems. (Head librarian)

Our jobs would be easier if those in other professions realized the tremendous value and contribution that libraries make to the successful completion of any mission. Can you help? (Library administrator)

SUMMARY AND CONCLUSIONS

Degree of Interest in Post-Master's Programs.

The following paragraphs summarize the most pertinent findings concerning the respondents' interest in post-matser's study, both in library science and in other disciplines. Contained in the conclusions for the curriculum builder are insights concerning potential demand for post-MLS programs and some indications of the conditions that do presently affect demand.

Interest in Post-Master's Programs in Library Science. It was found that 38.9 per cent of the respondents stated that they would enroll in either (both in some cases) the post-MLS year-long program or in a doctoral program in library science. The interest was far greater, however, in the one-year program (33.4 per cent) than in the doctoral program (16.2 per cent).

The degree of interest in both of these programs was generally the same for men as for women, and the same for administrators as for non-administrators.

It was found that as the grade level increased, the interest in the one-year post-MLS program tended to decrease. In spite of this, however, 30 per cent of the respondents in the study at grades 12-14 indicated a willingness to take a post-MLS program (as compared to 38.9 per cent over-all demand); thus there is evidence that, even in the higher grades,

there would be a considerable demand for such courses if they were provided. The findings do indicate, however, that special motivational factors would have to be taken into account if a substantial percentage of those in the upper grades are to be reached by post-MLS training.

These personalized criteria are the same for the one-year program as for the doctoral program. Some practical considerations of the prospecitve scholars are: the need for partial or total financial support, stipulations about curricular content, leave of absence concerns, accessibility, and the desirability of flexible scheduling. (Appendix Table XXIII)

Information which sheds light on the conditions related to curricular content is of particular interest to this study -- conditions which can either lead toward participation in formal course work or discourage individuals from further study. As documented in Appendix Table XXIII, the curriculum-centered conditions listed in the order of highest frequency were: quality of program, courses relevant to present position, opportunity to specialize, programs that might lead to better jobs, freedom of selection from a wide variety of courses, credits that would apply to a doctorate, new content that had not been covered at the MLS level, balance between library science and subject specialization, no comprehensives or thesis, and admission's requirements.

Interest in Post-Master's Programs in Fields of Study Other than Library Science. It was found that of the respondents interested in formal course programs, 29.0 per cent would choose fields other than library science at the pre-doctoral graduate level, and 11.0 per cent at the doctoral level.

The most popular areas of study were: administration and management, history, and literature at the pre-doctoral level. At the doctoral level, history, languages, administration and management, and information science were the favorites.

Many of those who opted for courses outside library science spoke out strongly and itemized their reasons for choosing to pursue their studies in other disciplines. For example, a number of respondents said they were interested and were willing to go back for postgraduate work. But based on their past MLS experience, they would not consider returning to library school. In view of the amount of interest in administration and management, it is conceivable that if a library school-based program which was relevant and of high quality, were to be offered in this area, some of these individuals might consider continuing their education under the banner of library science.

Additional Ways Suggested in which the Library School Could Help in the Professional Development of Its Graduates.

The respondents in this study had many suggestions of ways in which the library schools could be of additional help to them in their continuing education other than through formal programs. These are grouped under the following headings:

(1) The Library School as a Clearinghouse of Information
(2) The Library School as a Counselling Center
(3) The Library School as Educator
(4) The Library School as Agent to Help Upgrade the Profession
(5) The Library School in the Community
(6) The Library School as an Implementer of Effective Legislation for Librarians and Libraries

At first consideration , it might be asked exactly what all these "extra" services on the part of the library school have to do with developing a curriculum for post-master's programs in library science. Perhaps this relationship is best summed up by quoting McGlothlin. "The (professional) school must judge itself and be judged on its influence over the full careers of its graduates. Nothing less than endless growth can be considered success." (Ref. 4:7) Surely today, society would gain with these respondents in validating the need for any such services to prepare practicing librarians to adjust with all considered speed to the contemporary library realities.

It is quite evident from the large number of replies received to this questionnaire's open-end questions, that many librarians responding to it feel that the library schools have not nicked the surface so far as the "endless growth" of their alumni is concerned. Based on their past experience, some of the respondents doubted that any post-master's programs sponsored by library schools could ever really meet their needs. Many tended to look to other disciplines and areas of studies to seek the reinforcement needed in their career development. On this basis, even as McGlothlin states, they are judging the library schools and finding them woefully lacking.

Self-Perceived Deficiencies in Professional Training.

The purpose of this section of the questionnaire was to ascertain: (1) whether or not there are any formal scientific, technical or professional courses the respondents lack which they feel would have been especially helpful in their positions; (2) whether or not, in relation to their present position, there are any activities they should be engaged in for which their previous training has not prepared them.

The following statements summarize the findings which seem especially interesting and which may provide a basis for further research and the initiation of specific programs in continuing education at the post-master's level.

Deficiencies in Formal Scientific, Technical, or Professional Courses. Before discussing specific course deficiencies, it should be noted that nearly one-half (48.5 per cent) of the respondents (67.2 per cent of the administrators and 32.8 per cent of the non-administrators) listed courses they lacked that would have been especially helpful to them in their present positions. These deficiencies, as listed by the respondents, suggest the necessity for corrective measures both at the master's and the post-master's level.

(1) The fact that the highest ranking single course deficiency was Scientific and Technical Literature reinforces the frequent observation that the library profession as a whole is heavily specialized in humanities and the social sciences. In this connection it is significant to note that Lilley (Ref. 6 :122-125) found that knowledge of basic sciences (chemistry, first priority; biology, second priority) and mathematics are most especially necessary prerequisites for the graduate education of information specialists, with the social and humanities subjects much lower on the priority scale. This suggests that to meet actual job requirements at the present time, the library school at the MLS level might well consider making a requirement of courses in History and Methods of Science and Technology and Its Literature.

In addition, it should be noted that when courses were categorized by major subject areas, Specialized Information Sources ranked first. Many respondents seemed to want not just an over-all course in scientific and technical literature, but a particular speciality within science, such as the literature of chemistry, physics, or engineering. This would seem to imply that at the post-master's level there should be the opportunity for the individual to take at least a seminar in such a specialized area.

(2) The second highest ranking subject area deficiency was the Administration and General Management of Libraries. Designers of library school curricula should carefully consider the evidence here as well as in all sections of this study, of the pressing need for more training within the library school at the MLS level in the area of administration and management. Obviously, particular attention should be paid to the development of post-master's programs in this area. Based on the expressed needs of the respondents in this section of the report, two courses that would

seem to merit serious consideration for inclusion at the post-MLS level would be General Management and Personnel Administration.

(3) The third highest ranking subject area deficiency was automation. Combined with evidence of need in this area found in nearly every section of this report, the findings would seem to reinforce the current opinion prevalent among some library educators that the time has come when a basic course in automation should be a requirement at the MLS level to be supplemented by a more advanced course at the post-master's level.

(4) A final observation is related to the fact that in some schools there is pressure being exerted to drop any foreign language proficiency requirement for the MLS degree. The data collected in this study provides evidence that foreign language competency is an important area for many librarians today, and that the foreign language proficiency requirement should not be dropped without further research. This point of view is reinforced by the findings in the recent research by Lilley (Ref. 6 :123-125), who found that knowledge of foreign languages was the second most important prerequisite (basic science, first; mathematics, third) for the graduate education of the information specialist.

Unperformed Job Activities Due to Lack of Training. Here again, the fact that because of deficiencies in training over one-fifth (22.2 per cent) of the respondents reported that they were not performing duties in their jobs which they felt they should have been is in itself a matter for serious consideration by library educators. The following specific points seem worthy of emphasis.

(1) There was evidence that an administrator rather than a non-administrator is more likely to feel that he should be performing activities which he is not, and for which his previous training has not prepared him. Generally this would be in keeping with the theories of Fayol (Ref. 4) and Corson (Ref. 2) that for effective performance in any position above the beginning level in the hierarchy of organization, an overlay of managerial concepts and competencies must be acquired.

(2) The activities most frequently listed as not engaged in because of lack of previous training were in automation. It is interesting to note that of the 23 respondents listing automation as an unable-to-be-performed activity, 20 were administrators.

(3) This data brought into focus one type of job function more clearly than in any other place in the findings. Designated in the questionnaire as "Representing", this area constituted the second largest area of unable-to-be-performed activities. It covers such individual activities as public relations, publicity, report writing, editing, and the layout of publications. The findings in this section would seem to support Hall's statement (Ref. 5) that good public relations techniques are not taught by library schools, and graduates are left to their own devices in the crucial facet of communication. Adequate training in this area might help to intensify efforts and improve abilities throughout the profession for reaching the non-user of library services and for conveying to current users the full extent and potential value of library services.

(4) The administrative function of planning constituted the third largest area of unable-to-be-performed activities. With the current emphasis on Program Planning and Budgeting as prescribed by the Bureau of the Budget for all Federal facilities -- and with the concept spreading rapidly to the private and public sectors generally -- this would seem to be an area which should receive special attention in the development of post-master's programs.

Commenting on the fact that the infusion of Federal money into libraries is now forcing the library to justify how its services warrant public support, de Propso (Ref. 3:30-32) points out that it has become more readily recognized that better and more sophisticated administrative skills must be utilized by the heads of libraries, especially in the area of better planning for improving library services.

Knowledge, Abilities and/or Skills Considered Most Important for the Respondent's Replacement.

The most striking result from the replies received from the question asking what knowledge, abilities and skills the respondents would consider most important for a replacement,was the emphasis placed on job-connected personal characteristics. The heavy response to the question (85.5 per cent of the 365 respondents) which came at the end of page 12 of a long questionnaire, is in itself indicative of the importance attached to this question by the respondents. Specifically the personality traits ranking the highest were: getting along with people and adaptability or flexibility.

This emphasis on personality traits suggests two avenues of approach for this present project : (1) in addition to academic prerequisites, careful consideration of personal characteristics that seem to be

necessary to the efficient functioning of the librarian in screening applicants for admission to the program as suggested by Clayton (Ref. 1:84-99) and Lilley (Ref. 6:3); and, (2) the use of teaching methods to to emphasize the importance of these characteristics, even though one might accept the premise of Hall (Ref. 5) that they cannot be educationally "learned".

However, deep implications are involved in both the above approaches and considerable research has to be done before any final conclusion is reached. The objective of post-MLS programs it to train librarians for better performance on the job. There is no way for this study to determine the measure of these characteristics in the totality of librarianship.

Suggestions from Open-End Questions Relative to Post-Master's Programs.

From examining in detail the wide range of comments given in response to the final open-end questions it would seem that the following have the greatest relevance to curriculum planning at the post-MLS level:

(1) That new programs should be just that --"new" -- based on innovative methods which make full use of the modern technology available today.

(2) That relevant research findings from other disciplines, particularly the behavioral sciences be integrated into the content of the post-master's library science program.

(3) That certain personalized criteria must be met in the post-master's programs if they are to attract a large number of enrollees and so meet the profession's continuing education needs. These would include: personal satisfaction, freedom of choice, accessibility, convenience, and continuity of programs. In essence, this concept envisions the library school accepting the technological advances now available to bring the courses and programs to the librarian wherever he may be.

Specific suggestions for meeting these personalized criteria included:

-- Taking the campus to the library by the development of courses for groups utilizing the newest technology such as video-tape, closed circuit educational TV, talk-back TV, and radio communications networks.

-- Taking the campus to the library through the development of individualized learning centers including an inventory of equipment such as:study console; 8mm cartridge motion picture projector; stereo tape recorder and placer; cassette player; cartirdge audiotape and filmstrip projector; headphones; equipment storage facilities; desktop daylight projection screen; slide handviewer; bulletin board; chalkboard; index file; question box.

-- Taking the campus to the individual by means of correspondence courses which could include the use of programmed instruction, cassettes, filmstrips, slides, tape recordings, telephone access to recordings and EVR.

-- That admissions standards be high at the entering MLS level so that the type of persons receiving the MLS degree would be those who would later be drawn to the concept of continuing education.

-- That library schools take cognizance of the fact that many respondents have a strongly negative feeling toward taking further formal study in library science based on their own past experience, and that there was considerable feeling among some of the respondents that post-MLS work might be better taken in a subject field than in library science itself. Further research on the reasons for this negative reaction might result in corrected concepts which would in turn attract librarians at the post-MLS level.

-- That valuable additional information relative to building post-master's programs might be sought from officials in agencies outside the library and from users of library services.

-- That there is a need in the profession for two types of doctoral programs, each different in its objectives, content, and approach: (a) one based on the needs of the practicing administrator which should be aimed at imparting a higher level of training to those who will actually be operating at a top management level in the field, which will give them increased ability and skill in the real-life library situation -- a program conceived and planned in a manner similar to the Doctor of Business Administration programs; and (b) one based on the needs of those who are preparing to make a career in teaching library science or in doing

research in librarianship.

-- That the library school must be concerned about the development of personal traits and attitudes of librarians as well as their technical knowledge and skills.

-- That continuing formal education is not only an excellent idea -- it is essential to professional awareness and advancement.

The question arises, "Are the free-response reactions of Federal librarians, as summarized in this section, typical of those of other types of librarians in regard to continuing education programs sponsored by library schools?" A partial answer in the affirmative to this question is found in the recent study by Stone (Ref. 7:208-213) in which the respondents (MLS graduates now employed in all types of libraries) made free-response suggestions very similar to those presented in this study by the Federal librarians. The participants in that study were in general agreement that the library schools should focus on formal continuing education programs in areas in which there were definite and expressed needs by librarians in the field; that those programs should be presented in varying and flexible formats which would meet the personalized criteria of practicing librarians; that the library school had a definite responsibility to upgrade and increase its contacts with its graduates; and that the central focus of all programs and activities developed should be on content that could be of actual help to them in their present job situations.

This chapter completes the formal analysis of the questionnaires as submitted by the 365 Federal librarians in the study. In the following chapter the views of top-level library administrators secured through interviews will be analyzed. They will be compared with the general conclusions reached from the analysis of the questionnaires.

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CHAPTER VII

RESEARCH FINDINGS FROM THE INTERVIEWS WITH TOP-LEVEL LIBRARY ADMINISTRATORS

In the first six chapters the findings obtained through the first data-gathering instrument, the questionnaire, have been studied and analyzed. This chapter is devoted to the findings obtained from the second data-gathering instrument used in this study, namely, the interviews with top-level library administrators.

INTRODUCTION

It should be understood at the outset that since there were only 20 of the top-level personnel interviewed (14 men; 6 women) the data collected through the interview cannot be analyzed statistically in the same manner as were the findings collected from the questionnaire. There were only this small number of interviewees because the total number of people in top-level library administrative positions (grade 15 and above) was only 46, as reported by the Civil Service Commission in the fall of 1969. A reflection of the attitudes and opinions of the top-level library administrators has been supported by actual quotations from the interviewees to illuminate further each concept under consideration.

The characteristics common to the twenty interviewees were: (1) they were top-level administrative personnel in Federal libraries; (2) they held a grade level of GS 15 or above; (3) they were all from one to three steps of authority above the level of professional librarian respondents who answered the questionnaire. For reasons of convenience and economy, all of the interviewees, with the exception of one, were located in the greater Washington area. As far as possible, all the agencies represented by the questionnaire respondents were proportionately represented in the interviews.

The method used to obtain a sample from the top-level administrators was quota sampling based on a proportionate number of administrators for each category of positions represented in the responses received from the practicing librarians who answered the questionnaire. This procedure made it possible to compare the results obtained from the interviews with the results obtained from the questionnaire.

It was decided at the outset that each interviewee would be asked questions pertaining to a particular type of position in order that the answers could be specific rather than too general in nature. Hence each interview centered around a particular type of position. At the time of selection of an interviewee, the type of position about which

he would be queried was also determined. (For a list of the positions about which interviewees were queried, see Table 5, Chapter II.) The main difficulty that was encountered while the interview structure was being planned was the question of how to eliminate consideration of the individual incumbent in the position about which the interview was to be conducted. This was solved by asking the interviewee at the start of the interview to think in terms of a replacement for the particular position about which he was being queried. All of the interview was then conducted with this hypothetical replacement in mind. This removed individual personalities from the discussion and set it in the future tense.

It should be mentioned that no attempt was made to collect additional data on the job inventory. Instead, the questions in the interview included desirable courses and competencies needed by the replacement for a particular position being discussed. In addition to these, several other questions of particular interest to the curriculum builder pertaining to post-MLS study were included.

In conjunction with the data obtained from the questionnaire, these interviews provide some feasible guidelines for the curriculum builder by throwing light on the possible content and structure of a post-MLS program.

COURSE NEEDS AT THE POST-MLS LEVEL AS PERCEIVED BY THE TOP-LEVEL LIBRARY ADMINISTRATORS (INTERVIEWEES)

The interviewees were asked about the courses most needed at the post-master's level, and at the end of the interview they completed the card sort of the 78 courses listed in the questionnaire as described in Chapter II. The objectives of the card sort are itemized as follows:

(1) To identify and rank the courses that the top-level library administrators agree are the most desirable for post-MLS study;

(2) To compare and correlate the assessments made by the top-level library administrators (interviewees) with the assessments made by the middle and upper-level respondents in the questionnaire.

These objectives were accomplished through different methods of analysis, but it should be pointed out that the discussion in this section is limited to courses (as distinguished from workshops), and is only comparable to the category labelled "Course Now and/or Course Later" used in the analysis of the questionnaire as described in Chapter V.

Courses Most Frequently Selected by the Interviewees.

The curriculum deck used in the card sort contained the same 78 course titles with descriptive notes as were listed for the respondents in Part II of the questionnaire. The top-level administrators (hereinafter referred to as the interviewees) were asked to examine each of these courses from the point of view of its helpfulness to the replacement in question in the successful performance of his professional responsibilities. The interviewee indicated the degree of helpfulness by putting each course card in a stack under one of the mutually exclusive categories: (1) "Should Have", (2) "Could Use", or (3) "Don't Really Need".

Fifty per cent or more of the interviewees indicated the hypothetical replacement should have the nine courses graphically shown in Figure 9 and listed in Table 45.

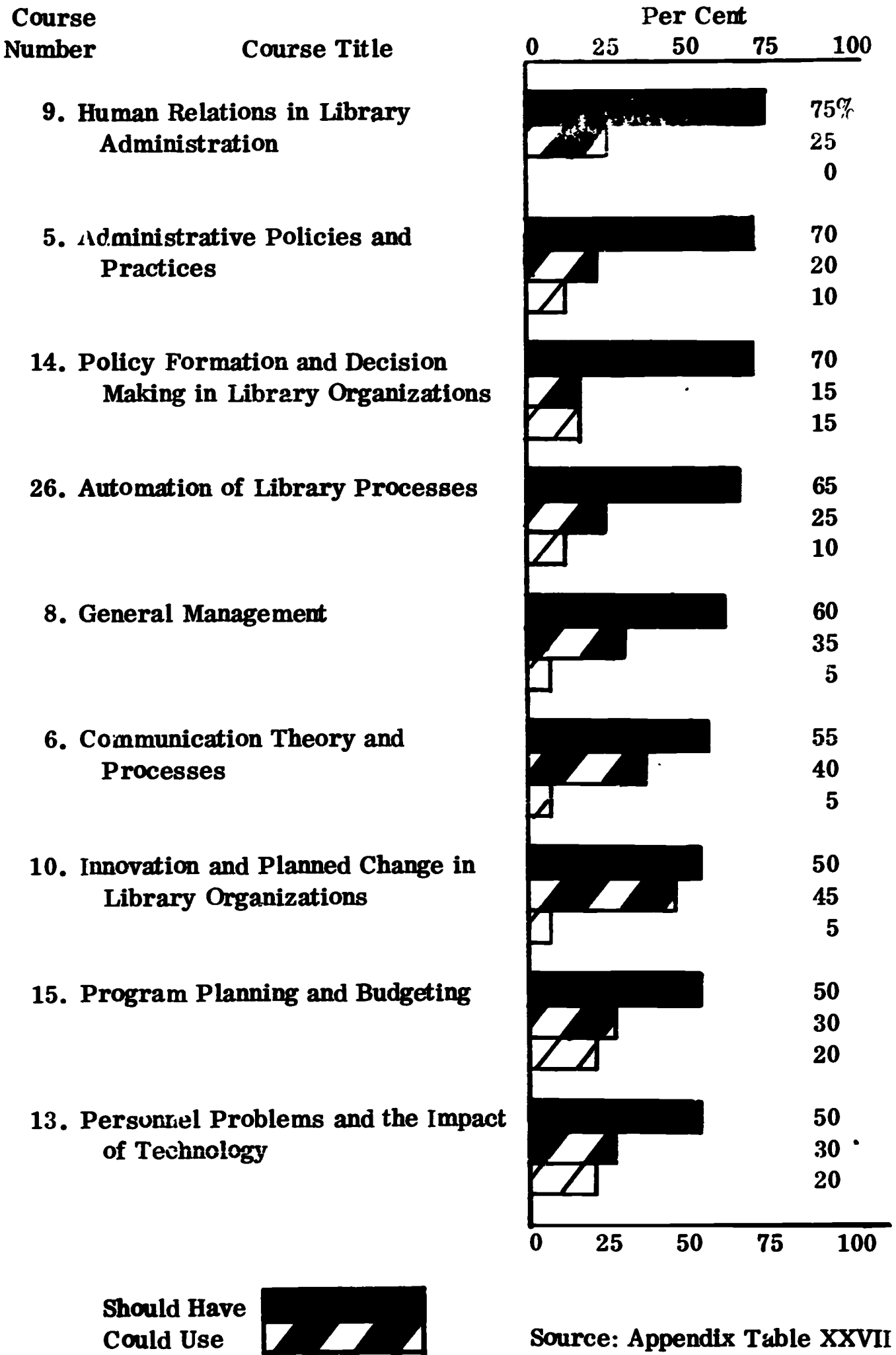
TABLE 45
PERCENTAGE DISTRIBUTION OF NINE TOP-RANKED COURSES CHECKED IN CATEGORIES: "SHOULD HAVE", "COULD USE", AND "DON'T REALLY NEED" TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES: 1969 (N=20)

Rank	Course Number	Course Title	Should Have	Could Use	Don't Really Need
			%	%	%
1	9	Human Relations in Library Administration	75.00	25.00	0.00
2	5	Administrative Policies and Practices	70.00	20.00	10.00
3	14	Policy Formation and Decision Making in Library Organizations	70.00	15.00	15.00
4	26	Automation of Library Processes	65.00	25.00	10.00
5	8	General Management	60.00	35.00	5.00
6	6	Communication Theory and Processes	55.00	40.00	5.00
7	10	Innovation and Planned Change in Library Organizations	50.00	45.00	5.00
8	13	Personnel Problems under the Impact of Technology	50.00	30.00	20.00
9	15	Program Planning and Budgeting	50.00	30.00	20.00

Eight of the courses selected by 50 per cent or more of the interviewees as being needed at the post-master's level were in the area of administration and general management of libraries. Only one, Automation of

FIGURE 9

PERCENTAGE DISTRIBUTION OF EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS AS PERCEIVED BY INTERVIEWEES:1969



Source: Appendix Table XXVII

Library Processes, did not fall in that category as listed in the questionnaire. Complete data showing how the interviewees sorted the cards in these three categories will be found in Appendix Table XXVII.

In order to achieve a ranking that would include some recognition of the "Could Use" category into which curriculum cards had been placed, a score was established for each course according to the group into which the course card was placed by the interviewees. The scoring system is explained as follows:

Each card item rated as "Should Have This Course" ... 2 points

Each card item rated as "Could Use This Course, But Not Essential"..... 1 point

Each card item rated as "Don't Really Need This Course" ..... 0 points

The foregoing procedure for arriving at a weighted score to use for the interviewee rankings was considered appropriate to the statistical goals of the study, because the values assigned to each response represented an ordinal relationship among the three possible responses, which is consistent with the card sort operation as it was performed by the respondents.

On the basis of the weighted scores thus achieved for the course needs of respondents as perceived by the interviewees, the ten top-ranking courses (listed by number and title as found in the questionnaire) were:

Rank 1 -- 9. Human Relations in Library Administration

Rank 2 -- 5. Administrative Policies and Practices

Rank 3 -- 8. General Management

Rank 3 -- 14. Policy Formation and Decision-Making in Library Organizations

Rank 3 -- 26. Automation of Library Processes

Rank 6 -- 6. Communication Theory and Processes

Rank 7 -- 10. Innovation and Planned Change in Library Organizations

Rank 8 -- 1. Building and Evaluating Library Collections

Rank 8 -- 13. Personnel Problems under the Impact of Technological Change

Rank 8 -- 15. Program Planning and Budgeting.

Examination of Table 45 quickly reveals that the weighted scores of the course rankings by the interviewees are very similar in content to the listing of the courses chosen in the "Should Have" category by 50 per cent or more of the interviewees. In fact, all of the same courses appear, but they are ranked in a slightly different order. Also, one additional course appears, "Building and Evaluating Library Collections" which was placed in the "Should Have" category by 45 per cent of the interviewees.

Comparison of the Ranking of Courses Made by Interviewees and Questionnaire Respondents.

In order to determine the degree of relationship between the ranking of the courses by the interviewees and by the questionnaire respondents. the rankings obtained from the weighted scores of the interviewees were correlated with the "Course Now and/or Course Later" rankings of all the 365 questionnaire respondents and with the administrative and non-administrative respondents with the following results:

Rankings of Courses by Interviewees with:	Correlation Coefficient
(1) The "Course Now and/or Course Later" rankings of all the 365 questionnaire respondents	0.64
(2) The "Course Now and/or Course Later" rankings of the administrative respondents to the questionnaire	0.66
(3) The "Course Now and/or Course Later" rankings of the non-administrative respondents to the questionnaire	0.48

The four lists of assessments of course rankings used to compute the correlation coefficients are presented in Appendix Table XXVIII.

The correlation coefficients calculated above reflect the degree of concurrence between the different rankings. The correlation between the rankings by the interviewees and the respondents is not as high as might be expected. This only shows the importance of a separate survey of top-level administrators.

The correlation between the ranking of the interviewees and the respondents who were administrators is of the same magnitude as the above correlation, although it could have been expected to be larger because of similarity in types of jobs, even though at different levels. However, the correlation between the rankings by the interviewees and the respondents who are non-administrators is smaller in magnitude as compared to the other two correlations. This, too, was expected because of the differences in their types of jobs.

Examination of Appendix Table XXVIII reveals that in many instances the opinions of the interviewees have closely coincided with the view of the questionnaire respondents. However, in other instances, it is quite obvious that the interviewees have placed a different value judgment on some of the courses relative to the post-master's program than did the respondents to the questionnaire. Discussion of the most significant of these similarities and differences relative to individual courses follows.

Comparative Rankings of Administration and Management Courses. As one basis for comparing rankings, all the 13 courses listed in the course area entitled "Administration and General Management of Libraries" (Questionnaire, Part II, questions 5-17, page 7) were listed side by side in Table 46 and the two sets of rankings compared.

It is interesting to note that of the 13 courses, the ranking by the interviewees for nine courses was higher than that for the respondents, and in four of them it was appreciably higher. In two courses, the ranking remained the same. In three courses the ranking by the interviewees was lower, but in only two of them was it appreciably so. To what do these findings add up? The following conclusions can be drawn from this comparison of rankings within the administration and management course areas.

(1) From the analysis of the data obtained from the questionnaire, the importance of the courses in administration was clear, but from the viewpoint of the interviewees it is now found that the administration courses are considered even more important for inclusion in a post-MLS program. In some cases the higher ranking given some courses is so pronounced and sufficiently backed up by data obtained from the interview proper that it would seem such course or course content should be seriously considered for inclusion in a post-MLS program even though the rankings of the questionnaire respondents standing alone might not seem to warrant such inclusion.

(2) The perspective of the top-level administrators in relation to a specific job is different from that of the librarians at the middle

TABLE 46

RANKING OF ADMINISTRATION AND MANAGEMENT COURSES TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES COMPARED TO RANKING ACCORDING TO CATEGORY "COURSE NOW AND/OR COURSE LATER" BY ALL RESPONDENTS: 1969

Course Number	Course Title	Ranking by Interviewees (N=20)	Course Now and/or Course Later Rankings by Respondents (N=365)	Difference
9.	Human Relations in Library Administration	1	6	+ 5
5.	Administrative Policies and Practices	2	5	+ 3
8.	General Management	3	8	+ 5
14.	Policy Formation and Decision Making	3	53	+50
6.	Communication Theory and Processes	6	17	+11
10.	Innovation and Planned Change in Library Organizations	7	48	+41
13.	Personnel Problems under the Impact of Technological Change	8	14	+ 6
15.	Program Planning and Budgeting	8	8	0
7.	Design of Library Organizations	11	11	0
12.	Personnel Administration in Libraries	15	13	- 2
17.	Theories of Organization and Management	15	48	+33
16.	Public Administration	28	62	+34
11.	Management of Records Systems in the Library	56	38	-18

and upper level. The administrator seemed to look at a job as a part of the whole mission of the library system, and tended to attach more importance to the administrative and management portion of the position from his vantage point than did the individual librarian, who, perhaps, did not see exactly where his individual job fit administratively into the total mission and goals of the library.

(3) The top-level administrators ranked the course "Innovation and Planned Change in Library Organizations" much higher than did the questionnaire respondents. The interviewee from his broader

[1]As before, the term "Respondent" will continue to mean "questionnaire respondent" throughout the report.

experience and perspective tended to see that a substantial part of management involves the responsibility for continual innovation and for taking the lead in bringing about changes, and therefore rated the course much higher (7 as compared to 48) than did the questionnaire respondents. This would seem to imply that the librarian returning for a post-MLS program basically needs to be shown or taught to recognize the necessity for continual adaptation to change as well as recognition of the ways consensus for change can be achieved and implemented within the library system.

In their response, the top-level administrators seemed to be aware of and anxious to do something to correct the lethargy toward change that has characterized the profession, and seemed to be in agreement with the statement of Bundy and Wasserman that:

> Progress in librarianship is made by only a relatively small number. Innovation remains on trial when it should be encouraged. The field stands conservative and deeply rooted in the past at a time when such a stance exposes it to danger. (Ref. 5)

(4) The greatest difference in ranking in the administrative course area was in the difference in rankings by the interviewees as compared to the questionnaire respondents on the course entitled "Policy Formation and Decision Making". (Rank 3 by the top-level administrators; rank 53 by the questionnaire respondents.) The top-level administrator, not only in his high ranking of this course in decision making, but in the interview itself, frequently referred to the importance of decision making and that part that the person in the job about which he was interviewed had in decision making, and to the fact that so often knowledge in this area was lacking. The top-level administrator saw decision making in terms of informed and debated views that needed to be presented as logical and feasible alternatives before any decision could be made; of matching resources with priorities; of being able to make compromises; of recognizing that it is primarily a group process, and seldom the task of an all powerful individual working alone. The respondents, on the other hand, appear not to see decision making in its multi-faceted aspects.

(5) The importance that the top-level administrators placed on theory seemed to be grounded in their observation that managerial actions of librarians were very often based only on past experience, which might be very inadequate, or on hunches, rather than on theories

which have been developed, researched and tested. The top-level administrator saw that theory and practice were inseparable and lamented the fact that so many librarians had never had any background or training on the theory of organization and management on which to base their practices.

The importance of "Public Administration" seemed to be related in the minds of the top-level administrators to gaining an understanding of the external environment -- especially the governmental framework within which the librarian has to work as a part of the sub-system of his agency. They saw the library not as an isolated unit, but as an important segment in the total governmental framework. One administrator expressed it this way:

> I very strongly believe that a good course in public administration would be desirable at the post-MLS level. One thing you're not prepared for from your library training is the real problem of working in a framework of Congressional delays in appropriation, the need to respond rapidly with long-range programs; the necessity of meeting the requirements of higher administration, but the inability to do really any concrete meaningful short-range planning because of a lack of authorization for appropriation.

The questionnaire respondents, even as stated by the interviewee cited above, did not attach the same importance to this broader outlook, nor seem to realize the real problems that they would need to face in this area as they move up in the organizational hierarchy of the library.

"Communication Theory and Processes" was also ranked considerably higher by the top-level administrator than by the questionnaire respondent (Rank 6 compared to 17). The importance of communication skills in the mind of the top-level administrator was reflected not only in his ranking of this course, but also in repeated comments by a majority of the interviewees that librarianship demands skill in communications, perhaps to a greater extent than any other single skill. Unfortunately the top-level administrators found these skills weak or lacking among librarians.

According to many of the top-level administrators, the librarian's accomplishment may depend largely on his ability to communicate with others -- in writing and orally -- to gather needed facts and views; to put these in terms that the user, or an agency official, or a Congressman, can understand; to persuade subordinates of

the wisdom of following certain courses of action; to be able to sell the library's program to users, agency officials, bosses; to put needed data in a form that his superior can use effectively for decision making purposes; to win the confidence and support of the library's program throughout the agency; and to gain support for raising the library's budget.

The importance of communication skills in relation to serving the user was stated forcefully by one of the interviewees in these terms:

> It is essential to understand that the core of success in a library, if you had to take one element, is the degree of communication between the user and the librarian --this is the core. Unless you have that, the house collapses on you. This is the most sensitive of all elements; I would make this a critical point above everything else.

Commenting on the common lack of communication skills among librarians, one interviewee stated:

> All these people [librarians] suffer from almost the same weakness. They've never really learned how to communicate. It's an odd thing that people in the business of transferring information are the poorest communicators that I've ever run into. They are neither able to communicate upward, nor are they able to communicate downward. The chief complaint that I get from the lower level of employees is: "We really don't know what the boss wants. We want to do what he wants; we want to do the best possible job, but nobody tells us what to do." This is the principal problem everywhere I have been . They just are unable to communicate -- they can't do it verbally, and they can't do it in writing.

In summary, the top-level administrators saw skill in communication as a competency which could and should be improved and strengthened through post-MLS courses.

(8) Finally, it should be noted that the course in "Human Relations in Library Administration" ranked first with the interviewees, and sixth with the questionnaire respondents. The importance that the administrators attached to this course is further indicated by the fact that in both ways of ranking the results of the card sort performed by the interviewees, "Human Relations" ranked first. Also, the top-level administrators put this course into

the "Should Have" group by a higher percentage than any of the other 78 courses; it was the only course not put into the "Do Not Need" column by any of the interviewees. Further, it is interesting to point out that after the courses on automation, it was the first choice of the 142 questionnaire respondents who stated that they would return for a post-MLS program. It would seem that regardless of how the data were analyzed, this course should be a prime candidate for inclusion in a post-MLS program.

Comparative Rankings Relative to the Automation Courses. Perhaps the most significant difference in rankings was between the interviewees and the questionnaire respondents in the area of automation, as shown in Table 47.

TABLE 47
RANKING OF AUTOMATION COURSES TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES COMPARED TO RANKING BY ALL RESPONDENTS: 1969

Course Number	Course Name[1]	Ranking by Interviewees	Ranking by Questionnaire Respondents	Difference
26.	Automation of Library Processes	3	1	- 2
27.	Information Processing on Computers	12	3	- 9
28.	Information Retrieval Systems	19	2	-17

Further, it should be pointed out that "Automation of Library Processes" was ranked first (listed first in the "Should Have" stack of cards) by only two of the interviewees, and 30 per cent of the interviewees did not even include it in their "Should Have" group. The percentage distribution

[1]The courses were described in the questionnaire as follows:

AUTOMATION

26. Automation of Library Processes: Application of computer technology to library processes.
27. Information Processing on Computers: The functions performed, and organization of computers; principles of programming and symbol manipulation.
28. Information Retrieval Systems: Structure and operation of information systems, including question analysis, search strategy, thesaurus construction.

of the three automation courses in the three categories of the card sort is shown in Table 48.

TABLE 48

PERCENTAGE DISTRIBUTION OF AUTOMATION COURSES TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES: 1968 (N=20)

Ranking	Course Number	Course Title[1]	Should Have	Could Use	Don't Really Need
			%	%	%
4	26.	Automation of Library Processes	65.00	25.00	10.00
21	27.	Information Processing on Computers	30.00	60.00	10.00
21	28.	Information Retrieval Systems	30.00	50.00	20.00

These statistics seem to reflect a different outlook toward training in automation on the part of the interviewees than was found among the respondents to the questionnaire. All three courses in automation, as indicated in Table 29, were ranked high by the respondents (ranks 1, 2, and 3); however, only "Automation of Library Processes" (rank 4) is given a top ranking by the interviewees, while "Information Processing on Computers" and "Information Retrieval Systems" have a considerably lower priority (rank 21).

Careful observation reveals that these two lower ranking courses are more closely allied with information science than with library science, and it may be that the interviewees made this distinction between the two areas. The interviewees did not completely eliminate "Information Processing on Computers" and "Information Retrieval Systems" as possible courses at the post-MLS level, but they did not give them a high priority, whereas the respondents seemed to attach much importance to them. From this, it is not certain that the interviewees really distinguish between information science and library science, but they certainly give lower priority to the two courses in automation which are more closely oriented to information science.

Essentially, the opinion of the interviewees toward training in automation was summed up by one of them as follows:

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[1]See footnote, page 221.

> I think many schools have been a little misled about what the librarian should know about automation. Librarians need to have an understanding of what the total library system is and how automation can help information flow through that system and increase the service output, but they shouldn't have to worry or become expert in how to use computers themselves. They don't need to be able to write a program -- that is a very specialized skill and properly should be left to those trained to write programs -- they need to know what kind of information to communicate to a programmer, a systems designer, and a systems analyst in order to develop an improved flow of information or improve library processes.

The fact that this attitude predominated among the interviewees is borne out in the statistics. It should be noted that two of the interviewees thought it was not necessary to offer any courses in automation at the post-MLS level at all. Their opinion was based on the fact that they thought a good basic course should be offered at the MLS level and that thereafter the librarian would be able to get the additional knowledge he needed in this area through on-the-job training and/or through attendance at an occasional workshop or seminar which would keep him abreast of the latest developments in the field.

As the more experienced, top-level administrators felt that the need for courses in automation was considerably less than that indicated by the questionnaire respondents, the interviewees were queried about their reaction to the heavy demand of the questionnaire respondents for all the automation courses listed. They gave such answers as:

> They are afraid that they will need all the knowledge and skills they think may be in these courses.
>
> They want to be ready when the day comes that they may need the content of those courses. It is an antidote to fear. They are afraid they may need them, although they don't really need them in their jobs today.

Other interviewees offered the theory that perhaps the reason automation was so heavily checked was that since it now seems the popular thing to do, they wanted to get on the bandwagon of automation skills; none wanted to be left behind.

Comparative Rankings of Selected Specialized Library Courses. As the basis for comparing the rankings of selected specialized library courses, the following comparative rankings are given.

TABLE 49

RANKING OF SELECTED SPECIALIZED LIBRARY COURSES TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES COMPARED TO RANKING ACCORDING TO CATEGORY "COURSE NOW AND/OR COURSE LATER" BY ALL RESPONDENTS: 1969

Course Number	Course Title	Ranking by Interviewees (N=20)	Course Now and/or Course Later Rankings by Respondents (N=365)	Difference
1.	Building and Evaluating Library Collections	8	38	+30
3.	Current Practices in Acquisition and Selection of Non-Book Materials	12	17	+ 5
19.	Administration of the Special Federal Library	38	4	-34
73.	Organization and Administration of Reference Systems	32	10	-22
77.	Research Development in Libraries	32	36	+ 4
78.	Statistical Theory and the Interpretation of Statistical Data for Researching	45	50	+ 5
76.	Operations Research in Library Management	24	42	+18

Looking at these statistics, we are again faced with the question, "What do they mean in the light of course offerings at the post-master's level?"

The following paragraphs suggest some possible implications for the curriculum builder especially when these rankings are further interpreted by comments of the interviewees.

(1) In examining this comparative list of rankings for a group of specialized library courses, the most noticeable difference in rankings is between the interviewees and the respondents in relation to the course on the "Administration of the Special Federal Library", which in the questionnaire was listed under the area cluster entitled, "Administration of Special Types of Library Services".

After the three courses in automation, this course, "The Administration of the Special Federal Library", was most frequently checked by the respondents (Rank 4); perhaps because it seemed to embody the opportunity to improve their administrative and management skills within the bounds of a course. On the other hand, the interviewees rated this course much lower, perhaps because they felt that the knowledge and skills of library management are the same for any type of library. If the interviewees considered management the central process which is the same in any type of organization, they probably saw no practical reason for such specificity.

In fact, some interviewees stated that the things that make the Federal library distinctly different in some of its specialized features such as procurement, should be properly learned on the job. It was felt by the interviewees that the administrative courses offered at the post-MLS level should be of a depth and content and caliber that would be basically applicable to any type of library. A further point made was that every type of library is represented within the Federal library complex. One said, for example:

> I don't really see the need to concentrate just on the "Federal" library in a course in the post-MLS curriculum. Federal libraries as a group are not that different from special libraries as a whole --they are just one type of special library. They all operate within the framework of a larger organization. There are just as many differences among Federal libraries as [there are among] any other group of special libraries.

It is interesting to note in this connection that the educators (eight to two) in the Lilley study recommended that a related course --"The Administration of the Scientific Information Center" -- be offered as a separate entity at the master's level. The rationale for this seemed to be concerned with the scientist. The respondents in that study felt that an organization that is different from that of business is needed where research scientists are working. Lilley stated it this way, "The difference in organization, however, is not only to accommodate the scientist, but because the organization needs his increased productivity." (Ref. 18 :208)

The same rationale that led those interviewed to affix a much lower priority to "The Administration of the Special Federal Library" seemed to apply to the course entitled "Organization and Administration of Reference Systems", which was ranked 32 by the interviewees as compared to a rank of 10 by the questionnaire respondents. In the reasoning of the interviewees, basic courses in organization and administration would

apply to a reference system as well as to any other system, and there was no reason to separate out this particular type of service for a special course.

(2) The interviewees evaluated the course "Building and Evaluating Library Collections" much higher than did the questionnaire respondents (rank of 8 compared to a rank of 38). As one interviewee phrased it, "I like to think in terms of collection-development in which the person responsible translates successful book selection into a development program that will benefit the whole library."

"The Acquisition and Selection of Non-Book Materials" rated considerably higher in the minds of the questionnaire respondents, but it still lagged a bit behind the value assessment placed on it as a course at the post-MLS level by the interviewees (rank of 15 compared to a rank of 17 for the questionnaire respondents). Several of the administrators spoke of the importance of the library's increasing its acquisition of non-book materials, especially audio-visuals. One commented:

> We have got to bring to the library an awareness that books and periodicals are basic, but not all inclusive in the library's collection. Audio-visuals are here to stay and must be used in the library, not in a vacuum, but in conjuction with our other collections.

It should be pointed out that the questionnaire respondents recognized the need for additional training in acquisition of non-book materials as well as in building and evaluating library collections generally. They felt, however, that these added concepts were best offered through the workshop format, ranking the course"Building and Evaluating Library Collections" second, and "Current Practices in Acquisition and Selection of Non-Book Materials" fourth in the workshop format.

(3) In spite of the fact that some library leaders like Joeckel (Ref.13), as far back as 1939 emphasized the value of using applied research as an active management tool in libraries, and in spite of an increase in recent literature and conference programs emphasizing this concept, it was apparent both from the replies of the interviewees and from the respondents that the value of applied research within the library had not been widely accepted by them. In fact, one of the interviewees, seeing this deficiency stated:

> I don't think we do nearly as much research in our libraries as we should. That's one of the reasons we're vulnerable when they say, "Well, really, is librarianship a profession? Are you really professional people?"

Inasmuch as it was apparent that neither the interviewees nor the questionnaire respondents give a high priority to research as a part of the curriculum at the post-master's level, it can be surmised that both the groups believe in a separate or differentiated type of training for the practical administrator and/or practicing librarian as compared to the librarian who is returning to take further postgraduate work in order to do research or to teach.

As research was not rated highly among the interviewees and the respondents, it is not surprising that the course entitled "Statistical Theory and Interpretation of Statistical Data for Researching" did not rate high with either group, although it received a higher ranking from the interviewees than from the questionnaire respondents. Several interviewees spoke, however, of the value that statistics could be to the profession. One implied that the reason research was not accorded a high priority was the fact that librarians did not have an adequate concept of the use of statistics and, believing that this was necessary for competent research in applied situations in the library, assiduously shied away from such research efforts. He stated it this way:

> There should be no question; there should be at least an elective course in statistics available at the MLS level. I don't think that every person who works in a library should know statistics, but I do think that a lot of people need to know a lot more of statistical research methods -- not at a high level, but at least at a level which gives them confidence to experiment. From teaching in a library school, I know that lots of our library students know nothing in this area (probably as high as 90 per cent). It was difficult for them to even read library literature that included any statistical concepts, let along literature from other disciplines. If we hope to make applied research a common experience in libraries, students must have at least an elementary introduction to statistical methods.

Several of the interviewees stated that they thought statistics should be interwoven into nearly all the administration courses, that problems or simulated exercises should be provided that would

necessarily involve the use of statistics, and that this would be a better form of training than having statistics offered as a separate course at the post-MLS level.

However, when the course "Operations Research in Library Management" was examined, it was found that the interviewees gave an appreciably higher ranking to it than to "Statistical Theory and Interpretation of Statistical Data for Researching". This would seem to support the view, already mentioned, that in the minds of practicing library administrators, most post-master's courses should be professionally oriented to on-the-job rather than to research situations. In this particular case, it would seem that the interviewees felt that "Operations Research in Library Management" would have more job applications for practicing librarians than would "Statistical Theory...", which presumably (at least to the interviewees) is oriented more toward research use.

Comparative Rankings of Courses Related to the Subject Area of Information Science. Just as the administration and the automation courses were singled out and analyzed by comparing rankings, in this section courses from the questionnaire related to the area of information science are presented with comparative rankings. An examination of these comparative rankings, as presented in Table 50, reveals that for all the courses the rankings by the interviewees were less than the corresponding rankings given by the respondents. This situation is almost the reverse of the case with the administrative courses where the rankings for the interviewees were, in almost all cases, higher than those of the respondents. This would seem to indicate that as far as these courses related to information science are concerned, the interviewees as a group gave them a lower priority than the respondents did.

One explanation for this could be that the interviewees were answering in regard to one particular type of position, and for the position discussed they saw little need for courses in information science at the post-master's level. Another explanation might be, as was suggested in the section comparing the automation rankings, that the interviewees felt that skills involving high specialization in information science techniques such as systems design and programming were better performed by specialists brought into the library for that purpose, and that such functions did not constitute the role of the librarian. Further, in some of the libraries represented, much of this type of responsibility is concentrated in a centralized office, and the librarian in the field has little direct involvement.

TABLE 50

RANKING OF COURSES RELATED TO THE SUBJECT AREA OF INFORMATION SCIENCE TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES COMPARED TO RANKING ACCORDING TO CATEGORY "COURSE NOW AND/OR COURSE LATER" BY ALL RESPONDENTS: 1969

Course Number	Course Title	Ranking by Interviewees (N=20)	Course Now and/or Course Later Rankings by Respondents (N=365)	Difference
57.	The Scope of Information Science	51	17	-34
94.	Systems Analysis in Information Science	51	22	-29
54.	Equipment and Instrumentation	61	53	- 8
55.	Linguistics and Information Science	61	42	-19
60.	Cybernetics and Society	67	56	-11
56.	Mathematical Techniques for Information Science	69	42	-27
22.	Information Center Administration	71	22	-49

ANALYSIS BY COURSE AREAS OF THE MOST NEEDED SKILLS AND COMPETENCIES AT THE POST-MASTER'S LEVEL AS PERCEIVED BY THE INTERVIEWEES

Scope of the Presentation.

The data presented thus far in this chapter gives a summary of the types of courses that the top-level administrators considered most important for inclusion at the post-MIS level, and compares them with the highest priority courses as suggested by the questionnaire respondents. The chief differences in the priority ratings between the interviewees and the questionnaire respondents have also been discussed.

Another purpose, however, for interviewing these top-level administrators was to obtain suggestions about the content and structure of courses which are to be taught at the post-master's level. This data provides additional information for the research team in Phase II of the project in determining behavioral objectives, and in developing specifications for model courses for a post-master's program. The opinions of the interviewees, therefore,

stressing skills and practices they recommended for inclusion in post-MLS education, add an extra dimension to the whole study and complement the job inventory section of the questionnaire.

This extra dimension was accomplished by asking the interviewees to list the skills and competencies over and above those achieved at the master's level which they felt were necessary to perform more efficiently the job about which they were being queried. As the object of the project is building courses, and since these skills and competencies are to be translated or incorporated into terminal behavioral course objectives, the data was analyzed from the point of view of three broad area clusters of courses: (1) administration; (2) automation; and (3) specialized library courses. Most of the skills and competencies suggested by the interviewees fell in the first two areas. This in itself is an indication of the degree of importance they attached to the administration and automation activities of the librarian.

In the following sections the interviewees' suggestions regarding skills and competencies are presented largely in their own words under the broad areas of administration and management, automation, and courses in specialized subject areas. A note of caution needs to be inserted here, however, against putting too much weight on the findings from the interviews as they stand alone and are the central focus of this chapter. It must be kept in mind constantly in reading the data in this chapter that the interviews constituted only a small p... of the study and were designed chiefly as an extra dimension, or a supplement, to the data that was obtained from the basic study, namely, the questionnaire responses from 365 practicing librarians (grades 9 through 14)as presented in Chapters III through V.

Further, it must be remembered that the findings are based on the reaction of the interviewee to needs relative to the replacement for just one job about which he was being queried. Finally, it should be emphasized that the findings in this chapter represent spontaneous free response answers to general questions posed to only 20 interviewees, so no precise statistical findings can be presented as a result of these interviews with top-level library administrators.

Course Area: Administration and General Management of Libraries.

Need for Training at the Post-Master's Level. As reported in the previous section, the interviewees gave the highest priority for training at the post-master's level to courses in the area of administration. In this section it is found that answers of the interviewees to a general question asking what competencies they felt were most needed for the

hypothetical replacement for the particular job about which they were being queried covered a wide range of administrative concepts, skills, and practices beyond those possessed by the average MLS graduate. This overlay of knowledge and skills was thought to be necessary, because the MLS graduate's first position usually involves him in some specialized library activity, such as cataloging, acquisitions, reference, or circulation. He soon (often immediately) finds himself, however, in a position of supervising others.[1]

This situation was recognized by Kortendick (Ref. 16:92) in an article on the curriculum of administration in library education when he wrote:

> If capable, periodically they [library school graduates] will move up to new tasks for which they are not yet adequately prepared, and by the time they master one work level they will be moved on to another. If the rise is too spectacular, the young top administrator may begin to stagnate, lacking the stimulation of a supervisor or of competition.

The dilemma of this situation was described by one of the interviewees in the following terms:

> An individual comes to us with a master's degree and takes a position cataloging, and gains a facility for cataloging our materials according to our set of procedures. That is all we require, and probably all that can be required. However, when we go looking for people to promote we look for people who have certain abilities as supervisors, but they are very hard to find. If there could be training for the individual which would include administration courses which emphasize the things that a supervisor should know and how he should act under certain circumstances, it would be the most valuable post-master's training you could give.

Increased skill in supervision, however, was but one area in the broader area of administration in which the interviewees saw a

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[1]Regarding the rapidity of advancement, it was found in a recent study that 67.4 per cent of the graduates who have been in library work for 5 years had achieved administrative responsibility either as a library director, associate or assistant librarian, department or division head or branch head; of those who had been out of library school 10 years, 78.8 per cent were in administrative posts. The graduate out 10 years was supervising an average of 15 employees; the five-year graduate, an average of 11 employees. (Stone. Ref. 27:256)

need for further training. As one interviewee stated:

> Regardless of the type of library, there are a vast array of administrative problems that always exist. For example, the information systems that we are trying to build in libraries today cut across organizational lines, and this makes the necessity for expertise in administration more necessary than ever before. The librarian often has to direct the work of others at some distance from where he is and those with skills in which he is not an expert. Increasingly, he has to achieve the goals of the library through those who are not his subordinates, but those whose support he hopes to win. He has to develop skills as a communicator, as a long-range planner, as a decision maker, [and] as a negotiator for the library.

In the next section are summarized the opinions of the interviewees regarding the added competencies in the field of administration and management that they felt are most necessary for efficient performance. To the curriculum builder, this data about desired knowledge and competencies beyond the MLS degree can be useful in determining the courses to be offered and in homing in on skills and practices that deserve special emphasis within courses to be developed at the post-master's level.

Skills and Competencies Needed in the Area of Administration. In what competencies and skills do the interviewees feel librarians most urgently need to have additional training in a post-master's program?

Those mentioned most often in the free response conversations with the interviewees were: capacity for directing others -- including interpersonal skills and employee motivation (18)[1]; communication skills (16); understanding the management process (15); skill in decision making (13); skill in program planning and budgeting (12); developing and merchandising user services, including public relations and publicity (11); innovation -- taking the lead in bringing about changes (10); gaining an understanding of systems design and analysis, including understanding of networks (10). After these activities, there was a drop in frequency, e.g., understanding the external environment outside the agency (6); understanding the other units in the agency (5); cultivating a sense of social responsibility which in turn is revealed in user services (3); managing by objectives (2); and mention of other single skills or practices (5).

[1]The numbers in parentheses indicate the number of responses.

The added competencies (beyond those received at the MLS level) which were given the highest priority in the free response statements of the interviewees are indicated by the following 8 generalizations regarding the role and expertise desired of the professional librarian in the area of administration and management. In addition, Appendix Table XXIX relates these added elements as suggested by 50 per cent or more of the interviewees, to the major job functions and courses as listed in Parts I and II of the questionnaire.

(1) "Skill in the Capacity for Directing Others Is Probably the Most Universally Needed Added Competency," one interviewee stated. His opinion in this regard was borne out in conversation with a majority of the interviewees.

However, within the term "work direction" a number of supervisory competencies were singled out for special comments: ability to perceive the attitudes, expectations, and values of subordinates; skill in interpersonal relationships; ability to delegate; ability to discern what motivates employees to develop to their full potential.[1]

In general, the importance they gave to skills in this area are borne out in the words of the interviewees.

-- The main thing I would look for in relation to the replacement for this position (branch head) would be the administrative ability to direct the work of others, to develop staff to their full potential, and the ability to supervise the total operation without having to do all of the work himself.

-- The librarian has to deal with a whole array of unstructured problems involving interpersonal skill in dealing with subordinates. Often motivation of those he is working with may be the supervisor's chief concern. Training in human relations is needed at the post-master's level, I think, if any real gain is to be made in understanding these areas, however, cooperative arrangements will have to be made with faculty from other disciplines (especially psychology) to become directly involved in the development and presentation of the program.

-- Supervision involves directing small groups and large groups, as

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[1]The interviewees also included a number of communication skills while talking about the capacity for directing others, but because communication skills were spoken of so forcefully and by such a large number of the interviewees they are separated out for special consideration in the following section.

well as individuals. Training in group dynamics is needed in order to do an effective job in this area.

-- The capacity to direct others is the ability to motivate, and personality makes the difference. Therefore, those selected for further training in this area should have the capability to grow in the understanding and practice of human relations concepts.

-- One of the most important aspects of work direction is realizing the potential represented by the people currently working in the library. This implies laying out duties within the library; the fitting, adjusting, and adapting job assignments to an individual's particular abilities so that each individual can develop the talent necessary to meet the library's objectives. This means knowing how to assign work to all who work in the library -- the college graduate without library training, the clerk, the high school page, the volunteers.

-- Rather than stating one particular competency, I would like to group the three which I think are the most important together: good human relations, good staff relations, good public relations. In other words, the image of the person should be a very positive one, as one who can get along very easily both with the agency and without. In terms of administration and supervision, but also just keeping everything on a positive keel, the person should have positive attitudes rather than negative, toward both the library and its future and librarianship. Also, it should be a person who not only is good in what he is doing now, but seems to show potential for future growth. He should be interested in the new developments, he should not be dragging his feet.

(2) <u>There Is An Urgent Need at the Post-Master's Level to Improve Communication Skills.</u> The ability to communicate (and be communicated with), as well as the importance of understanding the significance of the many facets of communication was mentioned more often in the free response conversation than any other single competency discussed -- 16 out of 20 interviewees stressed the ability to communicate as being extremely important, mentioning it almost immediately when asked the general question about added skills needed. Several interviewees stated that it was <u>the</u> most important and critical area in which they thought learning was possible through training and therefore, a prime candidate for coverage in the post-MLS program. The urgency of providing added training in the area of communication is portrayed vividly in the words of the interviewees themselves which follow:

-- Many librarians have trouble in expressing what they know. I have often had people come to me with problems of classification in their grades, and in almost every case the job descriptions had not been stated in such a way that they would be intelligible to a classifier who did not know the library. The same problem occurs when they present programs to management: they rarely explain their program fully enough or graphically enough.

-- Basically, I think librarians need a tremendous amount of training in how to present programs. It seems to me that most of the difficulties that the Federal libraries are having are concerned with their relations to management. They aren't able to sell a program, and it seems to me they need to be trained in just presenting information about their programs. They need to learn how to think about a program; you can't present a program unless you've done some systems analysis.

-- I think there should be a course in how communication occurs -- what's supposed to happen. Communication doesn't occur unless there's a reaction -- the concept that a noise is not a noise without an ear to hear, that communication doesn't occur unless someone hears and reacts. There is no communication unless something happens -- unless there is feedback.

-- I think one of the things you could successfully teach at the post-master's level, especially in higher echelons, is how to present data -- communication in the sense of how to give background information in an organized fashion so that the data can be used for decision making. Many librarians can't do this either verbally or in a written form. For example, they should be able to develop a position paper, a summary of what are the issues, what is the background information, how did this originate, what are some possible solutions, what do they recommend be done. For important things, it should be written; for other things, it can be informal.

-- We need improved communication skills in so many areas of library work. For example: in order to interview a systems analyst with ease and to discuss the problem at hand -- to be able to sit down in a quiet place and discuss the information needs of the library in relation to his problem of finding a solution.

-- I find that on every professional level, it is very difficult to find librarians able to write and prepare position papers, to prepare a paper of a special service or idea that they have, even to an announcement explaining the background and purpose of a service. It's not only report writing they can't do, but just preparing a simple position paper. Unless librarians can succeed in voicing their ideas (which are often excellent) in terms that management and the clientele understand, they have failed in the communication process.

(3) Librarians Need Post-MLS Continuing Education Opportunities to Develop a Fuller Understanding of the Management Process. Emphasis in the program offered at the post-master's level should be, the interviewees recommended, on skills of management and the attitudes appropriate to their effective use. Emphasis on skill in application, rather than in knowledge itself, suggested to the interviewees that the program should provide opportunities for practical problem-solving with less emphasis on lecturing, listening and note-taking. The value of using simulations which would approximate real life library situations and give students valuable training both in problem solving and achieving effective interpersonal relations was stressed by some of the interviewees. The necessity of the interdisciplinary approach to deepening the librarian's understanding of management was also emphasized. Several interviewees suggested that the development of such a program should have close working relationships with practicing library managers.

-- The chief added element I would look for in a replacement in this position (head of a department) would be a greater understanding of management - the whole idea. When I look at a library, I don't think of it as any different from a business. The bigger it is the more it is like any other business enterprise. You need the same management skills for both.

-- One urgent need is providing training in skills to improve their ability as managers. They are not good managers; they are not good organizers; they don't have a systems approach to management. Rather, they sort of crawl into their library and let the rest of the world go by.

-- A person in this position should primarily realize that libraries operate as part of a larger system -- no library is an island. The important thing is to see how to relate to the system as a whole. I think the bigger management picture is more important for them to get at the post-MLS level than any specialized type of

library subject. Management knowledge from other disciplines should be part of the tools of contemporary librarianship; such concepts should become the common knowledge of our profession.

-- When I look for someone to fill this position (head cataloger) I don't look for someone with great competency in cataloging -- we have that in journeyman catalogers. I look for someone who can analyze what's going on in our system; who can analyze the staffing requirements; who can organize the cataloging department so it relates to other functions of the library; who can relate it to other libraries, who can motivate the staff to production. In addition, this person should have ability to direct others, to coordinate, to use analytical techniques. In short, I am chiefly looking for a good manager.

(4) Considerable Attention Needs to be Given at the Post-Master's Level to Developing Skill in the Decision Making Process. The interviewees pointed out many facets of the decision making process, and believed that at the post-master's level, training should be given which would unify all these elements.

-- Competence in decision making is the chief added competency needed by the replacement for this type of position (head of a library). This involves the ability to establish priorities in the use of resources: people, money and collections. Since we cannot do everything that is considered ideal in operating libraries, we have to make many compromises: people have to have an ability to match the needs of their bureaus -- needs that are not always specified very clearly by their heads -- to be able to match these needs with existing resources and then be able to negotiate, to convince the users to hold the line in their demands.

-- How do they work under extreme stress? They need an ability to operate independently, using the most general guidelines. They need to understand all that goes into decision making.

-- The ability to adapt and to set priorities comes into play; knowing when to step back and when to step forward. Alternative features can be built into the program, knowing what they do about librarianship. I think what I have been describing is a decision making ability. If I had my way, librarians would be trained in only two things: the general characteristics of librarianship -- what can be done in libraries (what are the technologies with which we deal in librarianship) -- and decision making training.

-- Decision making should be emphasized -- the willingness to do it rather than knowing how. I have to force some of my people into making decisions.

(5) "Program Planning and Budgeting" Was Viewed by the Interviewees as an Area which Should Receive Increased Attention from All Librarians, Especially Those Studying at the Post-Master's Level. Twelve of the twenty interviewees spoke of the need for skill in preparing a program budget and what it involved in the way of long-range planning.

-- PPB is going to require librarians to set some plans to attain a changed library situation and to price out the various alternatives, and then to implement the plan for which funds have been obtained. Most of them need training in order to do this.

-- If librarians only had better skills in budgeting, they would be able to make more realistic long-range plans.

-- Because of lack of training, librarians don't seem to be able to produce figures that reasonably approximate the cost of activities they propose. This is a necessary part of PPB, and somehow they are going to have to be trained for it or the library is going to suffer because they cannot turn out a budget as requested.

-- I feel that "Program Planning and Budgeting" is an important candidate for coverage at the post-master's level, because it is something definite that can be taught compared to some areas like human relations where there is some doubt about how much can actually be taught that will help in practice. Also, librarians are notably weak in any kind of preparation for budgeting -- they need help and need it badly.

(6) There is a Serious Lack of Know-How on the Part of Librarians in the Area of "Merchandising" the Library's Product -- Information. Many of the interviewees stressed the need for training at the post-master's level in an area they thought not sufficiently emphasized at the master's level, namely user service and response. They also recommended that special attention be paid to advertising the services, products, tools and capabilities of the library.

-- Getting the information to the user -- the right information, packaged in the right format -- is an added competency at the post-master's level that I think is most important for the replacement for this position (reference librarian). It is necessary to think of the library information picture as a whole. It doesn't make any difference whether it's indexing, bibliographical services, or translation, because everyone is clicking together like one giant team, and the whole import is to serve the client with a product. I like to think of it as marketing the library's product -- information.

-- It is necessary to educate your clientele. Tell them what service you can give them. In a way it is all a matter of advertising. Your service has to be promoted. For example, we give an hour slide presentation of the type of information service we give plus a walk through our operation to demonstrate just how we operate and conclude the session by giving them samples of our products (reports, etc. we have produced). This pays off in building confidence levels and making people aware.

-- No matter how good your service is, it won't reach the maximum number of users unless you publicize it.

-- Communicating with users, finding out what they need and telling them what the library can do for them: I think this is one of the greatest weaknesses. We do not communicate what it is that the library is and can do for us.

-- One of the major problems within the profession is that we've been prone to communicate just within our own little world. This is perhaps because we have been shy and haven't been responsive to the newer needs of the science and research people and, now, the disadvantaged. Perhaps we need to bring the behavioral scientist or the sociologist to the library school.

-- I consider the most important added element is the degree of communication between the user and the librarian. This, to me, is the most critical emphasis that should be made at the post-master's level.

(7) The Necessity of the Library's Manager Recognizing and Accepting Responsibility for Continual Innovation, i.e., for Taking the Lead in Bringing about Changes which will Make the Library More Consistent with Contemporary Organizational Requirements. Much of the library manager's time, the interviewees believed, should go into activities (resulting from long-range planning) that are undertaken to make changes in pervading policies, to improve the processes and procedures, in adapting organizational arrangements to the new technology. The interviewees felt that one reason the librarians were hesitant to innovate[1]

[1]Wasserman in his paper on library and information center management (Ref. 30:54) makes an important distinction between innovation and imitation. Genuine innovation, he states, requires the kind of research and development activity which is far more costly than adapting procedures and arrangements which have already been plotted, developed and implemented elsewhere. To the interviewees in this study, innovation was chiefly related to the imitative process based on results already

based on adaptation and imitation of results successfully obtained elsewhere was their lack of familiarity with new research-based developments in related fields which would give them a broader perspective and would tend to make them more change oriented in their approach to library problems.

-- One of the things a library staff is paid for is to suggest and implement innovations, to create new programs and to improve them. That is one of the most important things a staff can do. But it just doesn't happen. They are all bright people, but they haven't been trained (or motivated) to come forth with things they feel. Perhaps if they were more familiar with management literature in other areas they might understand that a part of management involves the responsibility for continuous innovation.

-- The library manager must be willing to assume active leadership in the effort of making changes within the library. The profession has been quite slow in keeping current; I find it extremely hard to convince people that librarianship is any different today than it was 20 years ago.

-- To be able to develop a skill to negotiate changes, to make them move faster (or to make them slow down) is an exceedingly important area and one in which I am most troubled at the present time. But the question in my mind is: Can formal education do very much in this area? It takes a very thoughtful leader with constant attention on what he is doing with people over a period of time. If it can be shown that training at the post-master's level can help the individual develop this type of skill, then certainly it should be offered.

(8) The Practicing Librarian Should Have Sufficient Familiarity with the Concepts and Phases of Systems Study -- Analysis, Evaluation, and Design -- to be Able to Work Cooperatively toward Increasing the Efficiency and Productivity of the Library, whether or not there is an automated system within the library. The key word here is "cooperatively" for the interviewees seemed in agreement with those who have written in the field (Chapman, Minder, Asheim, Wasserman) that librarians have different roles to play in a library systems study which represents a demanding total library effort involving the entire library staff. For example, in addition to creating a hospitality to the concept of a systems study throughout the library, the head librarian should play a leadership role by being fully involved in planning the study and

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successfully obtained elsewhere rather than on research and development activity within the library itself.

responsible for appointing a library systems analyst (preferably trained in librarianship, as well as systems analysis and design as taught in modern management courses) to conduct the study. Only with the support and involvement of the total library staff, however, will the resulting system design and its implementation achieve the desired objectives.

As an introduction to the comments by the interviewees it should be noted that there are generally two types of major systems in a library: (1) the data processing system which is involved with methods to improve the efficient management operations within a library; and (2) the informational system which has as its objective the library's service requirements and goals. (Chapman. Ref. 6) Some interviewees addressed their remarks to both, some to only one. Some expanded the systems concept further to include the point of view of "being a part of a network or networks of librarians throughout the United States and what the librarian's part should be in that total system."

-- The element I think that needs most to be added by the library school is to make the librarian realize that the library is a total system whose object is to provide information. Every librarian should think of his job as being part of a whole, rather than as a separate segment; actually the whole function -- the end product-- of what all are doing is providing information. Each step ties into the next one; it's necessary to break down completely any barriers or any idea that what you do in reference is different from what you do in cataloging. This concept -- held by all the staff -- is basic to any successful systems study or implementation in a library.

-- All librarians do not need to be skilled in systems designing, but they should be skilled enough in analyzing the functions within their library in order to specify what they want from their system and be able to communicate these objectives to the professional designer who can then analyze inputs and outputs with great detail and be able to discover what problems exist and how to design a new system that will correct these conditions.

-- I think that courses in systems study should pay less attention to analysis -- collection of information, flow-charts and their symbols -- and give more attention to the fundamentals of systems design, of information systems design. Even if the librarian does not design the system by himself he will better be able to relate to the professional systems designer if he has had such training.

-- Every librarian should have sufficient know-how to be able to interact with a systems designer and know what his objectives in life are -- the way he looks at life. The basic objective should be to further the objectives of the library by improving the flow of information through the library. The basic interest should be in moving toward building an information system which, although it interacts with the actual physical movement of materials through the library and may result in improving the flow of these materials, has as its chief objective not to improve the flow of material, but to build an information data base. The real world of information is not the world of physical things. It implies a different way of looking at things than the way an industrial engineer would look at them, and that is why it is advantageous to have a system designer who is also trained in library science.

The importance of this area of administration was further stressed in a different context in the interview. In the questionnaire, it was found that the respondents spent an average of 9.1 hours per week doing avoidable detail work. When the interviewees were asked if they saw any solution to this situation, they confessed that there was no magic solution they could offer. Fifty per cent of the interviewees, however, saw it as primarily an administrative problem revolving chiefly around the fact that they did not understand the system and consequently could not make the system work for them. It was possible, they observed from their experience,to get sufficient clerical help and library assistants so that there could be time spent on professional work for the professional staff.

Several interviewees believed the difficulty was that administrators were not able to plan for a staff sufficient and competent to fulfill the system's requirements under the currently applied methods and procedures. Such know-how requires knowledge of the capacities and skills or special training of all individual workers and the ways of re-assigning jobs to workers to fit their levels of competency and their potential.

-- Unfortunately, most of our people do not have this kind of awareness. They see themselves as library operators. They lack the systems approach to the whole information system we are trying to develop. They see their function as only seeing that the circulation desk is manned, and that the procedures are set up. They don't see themselves as promoters or advancers of the total library system.

-- It's primarily an administrative problem. There are ways of getting around the red tape and getting the support needed, but so many librarians, especially those in the field, don't seem to have the kind of skill necessary to bring about the needed change. If the librarian isn't completely aware of the potential that is available to him and the channels that he must use in order

> to accomplish certain things and procedures, he's in pretty poor shape.

One of the interviewees succinctly expressed the attitude of an administrator with sufficient familiarity with the concept of system study--an attitude conducive to curtailing such wastage of manpower and an attitude which enables librarians to realize their full potential.

> I ask frequently, "Do you do anything you shouldn't be doing -- anything unprofessional?"

Course Area: Automation.

Need for Training at the Post-Master's Level. Although the top-level administrators' expression of need for post-master's training in automation was, on the whole, less extensive than that of the questionnaire respondents, some of the interviewees took the occasion to speak of the concerted effort necessary at the post-master's level in this subject. The profession, they felt, needs to understand the full capabilities of the modern technology. They stated that in order to use it to benefit library service, it was necessary for the leaders in the profession to understand the potential offered by automation. If major improvements in library service were not made by librarians, then society would turn to other agencies to supply its information needs, as predicted in the report of the National Advisory Commission on Libraries (Ref. 14 :321).

Speaking of the universality of the need for correctly relating librarianship to automation, one interviewee stated:

> Every library is probably going to be involved directly or indirectly with automation in the next decade. Every librarian, therefore, needs to have an understanding of how the computer can help, both in improving library procedures, and in increasing the speed and accuracy with which data can be supplied to the user. Training in automation is a necessity.

The general feeling of the interviewees seemed to be that today it should be expected that every working librarian should have had some introduction to the use of automated procedures in the library, but that for those that had had no such exposure a library school course should be available. They seemed also to be of the opinion that those who had been exposed to an introductory course during their MLS training should have the opportunity of taking a more advanced automation course.

To keep abreast of rapidly changing developments in technology that make automation a viable tool in the library, the interviewees pointed out, takes more than exposure in one course: it takes continuing education. Two interviewees stated:

-- Every librarian needs a basic course in automation, and the library school should be able to come up with one that would meet the need. But I don't think it's something you can expose a person to for a semester and forget it. Once they have one course, they are then involved and motivated to go onwards. Once their attitude toward the computer and computer-related things has been favorably altered, if they are not offered other courses, they should at least be offered periodic seminars or workshops to keep them up to date with changes in technology.

-- The librarian needs to express a confident willingness to work with superiors in adopting as many automated routines and practices as we can build into the normal library set-up. It takes more than just an open mind; it takes a willingness to do some continuous learning on one's own.

The interviewees were almost unanimous in their feeling that courses in automation at the post-master's level should be based in the library school, and that it was up to the school to structure courses so that they would be able to meet the librarians' varying degrees of familiarity with the subject matter. One approach to this problem was seen in the modular design of courses, in which the student might not be required to take those modules which were already familiar to him.

In discussing the free response answers of the interviewees regarding what they considered were the chief skills and practices the librarian should have presented to him in a course at the post-master's level, it must be remembered that the interviewees -- 65 per cent of them -- thought the replacement for the job about which they were being queried "should have" the course in automation of library processes, and that only 30 per cent thought the replacement "should have" the courses in information processing on computers or information retrieval systems as indicated in Table 48. Therefore, the preponderance of the skills and competencies detailed by the interviewees are related to this opinion of what the course should be. And as cautioned in the preceding administration section, it must be remembered that the interviewees were giving free responses in relation to just one position about which they were being questioned.

Skills and Competencies Needed in the Area of Automation. The interviewees were generally in agreement on the type of skills and

competencies that were most needed at the post-master's level in automation. A large proportion of their comments, directly or indirectly, related to the role they felt the librarian should play in relation to automation. From these statements drawn from a cross-section of Federal library experience at the top administrative level, six generalizations can be drawn relative to course content in automation at the post-master's level.

(1) <u>There Are Certain Basic Concepts which Should be Included in the Automation Course at the Post-Master's Level.</u>

-- The student should see that automation is really a modern branch of logic, and the presentation of the course should be more philosophical than that typically made by either the Civil Service Commission or the hardware producer.

-- Broader philosophical concepts should be stressed. Technicalities can be learned on the job, but the broader concepts will usually not be presented there, and, if they are presented, are not apt to be given completely and correctly.

-- The librarian must learn to look at the computer not only to encompass a given function, but must take the total systems approach and look at the computer as a utility in terms of all other related functions. In other words, how can the computer help the library operate as a total system in which the traditional boundaries between departments are done away with and the library functions as a whole?

-- The librarian needs to know enough about automation to see how it can be applied to different systems. In other words, he needs to think of automation in terms of:(1) the data processing system which supports internal operations of the individual library; (2) the information system which is concerned with storing and retrieving information to meet the needs of his library's clientele; and (3) the network of libraries throughout the United States and what the individual library's part is in that total system.

-- The librarian should realize that a detailed systems study is a necessary prelude to building a well-designed automated data processing system.

-- The librarian should understand the concept of feedback and how important it is in an automated system.

-- The librarian should realize that no major automated information system which is presently operating, including systems in the military, is designed completely from the ground up and then one day is turned on for a whole library and starts working for the whole system completely. It just doesn't happen. It's so much a part of the organization that it must grow with the organization. It has to be part of the organization, and so we install it in increments; we install first in one small area and then expand it. For example we have a SDS (Selected Dissemination System) in one small pilot section. It's much better that we designed it, tested it, improved it within a controlled environment and now are gradually expanding it than if we had tried to become "automated all at once".

-- The course should give an especially clear idea of how the computer can be used as a tool in library administration routines and procedures. This is where we have not enough knowledge and understanding of what the computer can do for us. So we can now become creative in developing some new routines and procedures, instead of trying to adapt the computer to our old manual procedures. It should be in reverse: until we become creative with the computer, we aren't going to change anything very much.

-- The course should show the computer can be used in long-range planning. The reason computers aren't used to their full capacity is that long-range planning as a basis for decision making has not been done.

-- The course should include the responsibility of the library administrator in relation to automation and systems analysis and design. It's a very heavy responsibility and one you can't surrender to some expert in systems or automation who doesn't know anything about a library.

-- In a course in a library school the failures as well as the successes should be pointed out. It should be as objective as possible on what can be done as well as on what the limitations are.

-- The student should realize that the whole field of automation in relation to the library is still in the research and development stage; we don't have all the answers, and we can't predict accurately. There should be an element of realism -- a condition more likely to be present today than a year ago when it was all "pie in the sky". The student should realize that very searching questions need to be raised, not only about initial costs, but about the continuing cost of all this automation and its potential benefits, before rushing ahead in any program.

(2) <u>The Interviewees Were in Agreement that Librarians Should Fully Understand Their Role in Relation to Automation and the Degree of Expertise that They Should Obtain.</u> They expressed their views in these terms:

-- Librarians don't need to be able to write a program themselves--this is a very specialized skill. But they need to know what kind of information to communicate to a programmer in order to develop an improved flow of information and to improve library processes.

-- It seems to me that schools often encourage people to take courses in computer programming in which they learn how to program payrolls, accounts receivable, etc., but they don't get at the basic assumptions of librarianship at all. I don't think it is the kind of training in automation that the librarian needs.

-- A librarian doesn't need to be an automation specialist or a systems analyst, but he needs to know enough to work with a team of specialists in these areas and communicate with them. Just as a librarian is not, and is not expected to be, an architect, but must know enough of what he wants to be able to work with the architect (know the vocabulary and what he has to supply to the architect to get the desired product), so he does not need to be a computer expert.

In relating automation know-how to professionalism, one interviewee stated:

-- The discipline of Library Science should be interesting and full enough in itself to be a full-time activity on the part of the professional librarians so they don't have to become automation experts themselves. I think librarians should concentrate on studying their own discipline and learn only enough about automation to know the ways the computer can and can't help them and how to communicate with systems analysts and programmers. I think many librarians have been enticed by the seeming glamour of this, and want to go over into the automation area, which I consider to be a special discipline in itself demanding a different kind of education and preparation.

On the other hand, several of the interviewees saw the advantage of some librarians training themselves to become library systems analysts and programming librarians, for they agreed with Minder

(Ref. 22 :274-275) that the problems to be solved are not simply tied to technology, but involve understanding the professional objectives to be served.

In any case, whoever is responsible for automating data processing, the interviewees believed, should be subordinate to the library administration which has a broader and more comprehensive approach to the total program of the library.

(3) All of the Interviewees Stressed the Importance of Mastery of Terminology in the Field of Automation. In the real world of automation and information systems, labels are often attached to the basic concepts which are very misleading. The most usual connotations of many words do not apply: for example, "information", "channel", and "capacity". These semantic difficulties warn that "things are not as they seem" and that precise meaning for the terms used must be imparted to the student. The science is further complicated by the use at this time of several different computer languages. Summing it up: terminology is important. The student must:

-- understand the jargon that is used in a textbook on computer operations...understand what is meant by the term "library automation" and how far it has gone today;

-- know the jargon of automation. For example they ought to know when a man talks about an on-line system and an off-line system what the differences are and be able to understand them.

-- understand the different program languages, the different levels; have some knowledge -- general knowledge -- of some of the more widely used languages.

(4) The Librarian Must be Aware of Potential Applications of Automation in His Library. This would include knowing basic existing applications, advanced applications now technically possible, and future possible applications. The time is rapidly approaching when every competent library administrator, like every other professional practitioner, will find it necessary to be well enough versed in automation to be able to read the literature, listen to salesmen, observe applications in other libraries and be able to judge the adequacy of their findings and claims for his own library for himself. This is no more than is expected of other professional practitioners in disciplines relevant to their work. In

other words, the librarian needs to be immersed in, but not completely merged with, or submerged by, the computer-automation tide. He must:

-- Learn the exact nature of the computer applications that have been made in his library and those that can be made.

-- Be able to know enough about automation to explain why his library isn't automated; to know how to defend his position of not being automated.

-- Be able to determine what output is required of the computer in relation to his library.

-- Be able to recognize a song-and-dance man -- how to cope with a high powered computer salesman and not be so naive that [the librarian] wouldn't know what was being talked about.

One interviewee also pointed out:

> The course should not only teach what the computer can do, but it should show the various uses to which the products of the computer can be put, including at least some techniques such as phototypesetting, preparation of catalog cards -- "the type of activities that librarians become involved with which are peripheral to the computer itself.

The areas of possible library use of automation mentioned by the interviewees included computer-based acquisitions sytems, serials systems, circulation systems, as well as applications in reference and indexing. Many interviewees thought the librarian should understand MARC and its possible applications to his library.

(5) The Librarian Needs to Put ADP Operations in Perspective with Regard to the "Economics of Information". Information economics makes one aware of the cost of automation, cost-utility trade-off, costs, feasibility, and maintenance costs that must be thoroughly investigated before automation is installed in the library if disappointment (sometimes disaster) over increased costs is to be avoided. Speed does cost! The interviewees believed that the librarians:

-- Should be given some kind of presentation on cost analysis techniques, because these things can get very fuzzy. The feeling often is, machines are fast -- therefore cheap, but that is not necessarily so. The librarian needs to have this brought home to him.

-- Should know the costs involved in using MARC.

-- Should know that the computer rarely saves money.

-- Should be able to tell the person to whom the librarian reports what it would cost to install and operate an automated system that is being proposed.

-- Should know approximately the cost implications of automation --the manual catalog vs. on-line machine cataloging. There ought to be some idea in their minds that one is $1,000 and the other $100,000, and know the order of magnitude of the difference.

(6) <u>It Is Necessary To Take the Mystery Out of Computers and Bring an Understanding of How They Operate: This would Include the Ability to Relate Hardware to Software.</u>

-- Understand what the different machines are.

-- Learn that the machine is only a machine, no matter how advanced. Some things it can do; some it cannot. You have to know the difference.

-- Know the advanced utilization and capability of the basic hardware.

-- Realize that the computer manufacturer's representative feels no responsibility toward his customers -- he is there to sell hardware. That you can't believe brochures on computers -- I never read brochures. [Librarians] should learn that they must insist on actual information on how the computer can serve the library.

-- Be able to specify the product and services wanted for the library that should be automated, and be able to produce the data needed for input.

-- Get [the course] over into the whole broader field of the new technology as applied to the field of librarianship. It might cover the related area of microforms, for storage of information and its relation to automation.

-- One of the best ways to take away the fear of the computer is to build into the course some "hands-on" experience. This would not be for the purpose of training one to program, but to give one enough actual experience to realize the problems involved and to get a feel for what is totally involved in any computerization of processes. It would seem that learning to use a few machines would be helpful in this regard, such as the key-puncher and the card sorter.

-- I think that it is not only computerization, but the new technology in its entirety that should be presented in the course at the post-MLS level. I think many people use the term "automation", but really mean this whole complex of the new technology in the field of communication, reprography, microforms, TWX -- all are very significant as well as computers.

Course Areas: Specialized Library Functions.

Need for Training at the Post-Master's Level. The fact that in their free responses, the interviewees mentioned relatively fewer specialized library functions than administrative and automative functions, would seem to indicate that they felt management skills to be more important than technical skills at the middle and upper job levels.

Library personnel, as they move upward organizationally, usually require a different combination of skills and competencies than were needed in their first library assignments. This was noted by Fayol (Ref. 9 :7-13) and Corson (Ref.7 :131-136) as has been noted earlier in this report.

Actually, for a large percentage of the positions about which the interviewees responded there seemed to be little need for depth of understanding of specialized library functions. However, the interviewees felt that the supervising librarians should have at least a working knowledge of the specialties their staffs were engaged in. Most of them did not think it necessary to take a full course in order to attain the knowledge requisite to an effective supervisory performance. The interviewees believed that the needed degree of familiarity beyond the MLS could be attained from participation in seminars or workshops; or in many cases, by watching and talking and by keeping up with the literature.

A convincing case is made for this kind of reasoning by Jacques Barzun, who refuted the formula that one has to practice any kind of science, art, or trade or process in order to understand it and to supervise it as carried out by others.

> We forget that every age has carried with it great loads of information, most of it false or tautological, yet deemed indispensable at the time. Of true knowledge at any time, a good part is merely convenient, necessary indeed to the worker, but not to an understanding of his subject: one can judge a building without knowing where to buy the bricks; one can understand a violin sonata without knowing how to score for that instrument. The work may in fact be better understood without a knowledge of the details of its manufacture, for attention to these tends to distract from meaning and effect. Even if one sets apart those arts and sciences that require special preparation, there remains a large field to which Intellect has access in its own right. With a cautious confidence and sufficient intellectual training, it is possible to master the literature of a subject and gain a proper understanding of it. (Ref. 3:11-12)

To sum up: the interviewees thought it necessary for the incumbents for the positions about which they were being queried to be conversant and generally knowledgeable about the work that came under their direction in order to make wiser decisions and in order to maintain the respect of those they supervised. They did not think that they needed to gain expertise in these areas themselves -- essentially the same attitude they had in regard to the amount of knowledge and skill needed in the area of automation.

Skills and Competencies Needed in Specialized Library Functions. Specifically, the interviewees mentioned the following special knowledge and skills enough to warrant a generalized statement about them. In no case, however, did as many as 50 per cent of the interviewees list these as "must" competencies for inclusion in a post-master's program. Those mentioned by three or more interviewees are summarized in the following paragraphs.

(1) Greater Expertise Is Needed in Providing Reference Service to the Library Clientele. Four interviewees placed stress on the need for improvement in the librarian-client relationship in terms of the reference function if full professional service is to be provided to the library user. Greater expertise was seen to be needed in the two areas that follow.

Greater Skill in Understanding the Psychology of the User is Needed for Meeting Client Needs. A number of the interviewees implied in varying ways that greater skill was needed in decoding the users' reference questions. For example, one interviewee explained it this way:

> An essential competency is for the librarian to know how to negotiate the reference question. That should be the prime object of a separate course -- the approach to the user. It involves psychology, but much more than that. There have to be methods of assessment in a hurry, there has to be an understanding of interpersonal relationships, there has to be an understanding of the psychology of reading -- the behavior and flow of information including an understanding of the invisible college. It's not essential that they be expert catalogers, or expert bibliographers, but it is essential for them to get into the minds of the user.

Added Competence Is Needed in an Innovative Approach to Little Used and Non-Conventional Library Reference Tools. A number of interviewees felt that the library MLS graduate left school with a fair competency in the conventional reference courses, but appeared to have no vision of how to creatively approach clients' problems for which no standard tools were available. Some of the approaches suggested for study to meet this need were: the vital nature of the telephone; private collectors; other libraries; associations; consulates; congressmen; archives; patents; technical reports; commercial catalogs; newspaper morgues; minutes of meetings; etc.

(2) The Librarian Needs to Cultivate a Sense of Social Responsibility which will be Reflected in the Service Patterns of His Library. Whether it is interpreted as serving minority groups in the community, or researching data on environmental pollution to be used in a campaign against pollution, the interviewees felt that sensitivity to the needs of the library's community and clientele should dictate the type of library service offered.

-- The librarian has to know what the community's needs are so that he can develop his collection and provide the service that best meets that need.

-- It seems to me that a course that might be of great value at the post-master's level would be one in community relations. This would give the librarian going into a new community

some background on how the feelings of groups develop; how groups interact with each other; how groups function; and how the individual can best relate to these groups.

(3) Much Thought is Needed in Order to Convert Libraries into Learning Resources Centers. Three of the interviewees believed that librarians were generally resisting incorporating educational technology into their own libraries because they were not technically competent and were not willing to think through what the library's stance in the area should be.

> A facet of education which should be demanded of the replacement for this position (head of library) is the ability to change the library into a learning resources center. This person should know about audio and video tape and slides and all the software associated with a suitable media program for the library.

(4) An Experimental Approach to Traditional Practices is Needed throughout the Area of Technical Services. The three interviewees who mentioned the possibility of improved skills in the technical service thought that there was a place for such study at the post-master's level if it "were lab work and experimental -- not book research." Here is an example cited by one interviewee of the type of experimental studies he had in mind:

> There are always lots of questionnaires and surveys of what people think would happen if technical services were organized differently or changed, but there have been very few experimental studies. For example: to experiment with giving up the catalog completely and then measuring what effect this has on service; or what would happen to a file if you treated a title as a main entry all the time; or take the subject approach to cataloging. Some preliminary research seems to indicate that the subject approach in a library catalog is of minimal value within a research library and that the lay user doesn't need highly specialized subject headings either. This is another area for experimentation.

(5) In Order to Solve Practical Library Problems, Efficiency and Ease in Handling Research Methods is Needed. Seven interviewees stressed the importance of using research methods to solve the large problems that arise in the ongoing operations of a library.

> -- Most librarians I know use a kind of hit-or-miss method

when they try to solve a practical library problem. How do you compile data and analyze it statistically to get reliable information from it? There is a great lack on the part of my staff in this whole area. If such a course were offered, I'd not only send all of my staff; I'd go myself.

-- I have found consistently in our analysis of technical services, for example, that there is a tremendous amount of statistical information involved. The skill comes in reducing all this data to a few statements of fact, but these seemingly simple statements are the basis on which we make all of our major decisions -- so statistics becomes exceedingly important. I find sampling techniques suitable for use in libraries are simply not known to most librarians. And -- sadly enough -- not enough are willing to admit their ignorance and go to an expert, or they don't have enough cash. Librarians should know enough statistics to do this kind of work "in the house".

The general consensus among those wanting additional training in research techniques seemed to be that:

-- I don't think every person working in a library has to have expertise in statistics, but I do think at least some elementary statistical methods should be a part of a post-master's program.

-- I don't think every librarian has to be a statistician, but perhaps there could be a conscientious attempt to work standard statistical practices into every course that involves quantification in problem solving.

These generalizations cover all the skills and competencies in the area of specialized library functions that were mentioned by three or more interviewees. Two specialized non-library information source areas were mentioned as being worthwhile courses at the post-master's level: (1) Urban Literature and Research, which would cover environmental sciences, technology and sociology; and (2) literature and research for the natural and applied sciences.

INTERVIEW RESEARCH FINDINGS: ADDITIONAL DATA RELATIVE TO BUILDING A POST-MASTER'S PROGRAM IN LIBRARY SCIENCE

For the remainder of the chapter the emphasis is shifted from individual courses to possible post-master's programs of one year in duration. The interest of the interviewees in such programs, the role of workshops and institutes, and other related variables of interest are analyzed with

quotations from the interviewees. The idea for a year-long post-master's program was presented in the questionnaire, but suggestions for the particular content that should be included in such programs were derived from the responses of the librarians themselves.

Interest and Reaction to Formal Post-Master's Programs.

Throughout the interview, the top-level administrators alluded to their general reaction to library school-centered post-master's programs. In order to quantify these reactions to present a clearer picture, nine specific written questions were asked of the interviewees. The answers to these questions are summarized in Table 51.

Examination of this table reveals that the interviewees as a group were in favor of a post-master's program being offered; in fact, 19 of them (one did not answer the question) considered the program important enough that they would allow full-time employees to attend on a part-time basis.

Sixteen of the interviewees agreed either strongly or mildly that certain schools should specialize in certain areas. During the interview, possible areas that were mentioned for specialization were administration, information science, automation and research. If schools did specialize in certain areas, it would not seem feasible that they could meet the varied needs of all who might wish to attend, but eight of the interviewees did indicate that they thought an effort should be made in this regard (4 strongly agreed; 4 mildly agreed).

In an attempt to discover some criteria that should be set for admission to such a program, the interviewees were asked the amount of time they thought should ideally elapse between the master's degree in library science and post-MLS study. The average number of years suggested was three-and-one-half years. The responses ranged from no years (one respondent thought the student could profit by continuing immediately following the MLS degree) to six years (two respondents).

Although this study has indicated that in administrative positions at the upper and middle levels, a high percentage of the duties performed represented universal management skills and competencies, there is still a solid component of specialized knowledge, abilities, and attitudes which can be acquired only through substantial study and experience in the library field. In other words, while an increasingly small percentage of the duties performed as one rises in the organizational hierarchy represent specialized library functions, a considerable part of the knowledge required to perform these supervisory library jobs is "specialized". For example, it is not enough for a library administrator

TABLE 51
ATTITUDES OF THE INTERVIEWEES TOWARD POST-MASTER'S PROGRAMS IN LIBRARY SCIENCE:1969
(N=20)

Statement Given Interviewee for Reaction	Extent of Agreement			
	Strongly Agree	Mildly Agree	Dis-agree	No Opinion
I consider a post-master's program important enough that I would let full-time employees attend on a part-time basis.	12	7	0	1
I think certain schools should specialize in certain areas.	7	9	3	1
I think that every school having a post-MLS program should try to meet the varied needs of all who wish to come back.	4	4	11	1
I think the maximum advantages from a post-MLS program will be obtained only if the person involved has had some experience in a job following the MLS.	10	8	0	2
I feel the school should offer courses in the library science department, but that they should be highly interdisciplinary in their approach.	15	5	0	0
I would expect certain terminal behavior patterns from persons who come back after participating in a post-MLS program.	6	7	3	4
I would be interested, myself, in going back for certain types of training.	8	6	2	4
I feel that updating is done best in the job situation rather than by returning to library school.	0	2	10	8
Courses and in-service training programs aren't in my mind the answer to continuing staff development. Understanding and a developmental type of leadership on the job are much more important for the development of the individual in his job.	0	3	16	1

to be skilled in the general aspects of communication. In order to communicate successfully with a group of catelogers he must have, among other things a general awareness of the responsibilities, techniques, motivations, and inter-group relationships of catalogers. It was for reasons such as these that the majority of the interviewees felt it was preferable to have the courses at the post-master's level based in the library school rather than in other departments on the campus, such as Psychology, Sociology, Educational Technology, or Business or Public Administration. Two of the statements of the interviewees expressing this point of view follow:

-- I think we err to think that because something is a little unusual it is outside the library school framework. To me, management is an integral part of libraries; therefore, management should be taught in that context. There are many things about library management that are different. In most management positions you can immediately come to a reasonable judgment as to the value of your output products, because most managements deal either in profit-making services or turn out a commodity. When you deal with a library, the benefit of what you do is very much like a church -- it's not a very tangible thing. And so you take it with a great deal of faith. But when you come to selling people on a budget, you have to have some tangible way of demonstrating your value. Some of the faith has to be translated into body -- some substance somewhere. This is one of the big problems that librarians have with the whole budget program. It shows up again when you want to go into a computer operation. If you want to take on any new kind of program that is terribly expensive, your order of magnitude of cost goes up two or three times. To justify this takes a lot of selling.

  Handling information is different from handling commodities, so, although the basic management skills you need for a library are pretty much the same as for business or any other organization, the specialized library knowledge you need to perform these basic management functions is different. Therefore the management and administration courses we are talking about should definitely be taught in the library school.

-- I would be reluctant to turn over those who come back for post-MLS study to graduate schools in business administration. For most of them are fully oriented toward industry, and libraries have specialized characteristics that must be accounted for. There is a large amount of the profit-motive in the decision-making process in industry. Therefore, I would like to see

> any post-master's program based in the library school, but going out to and bringing in professors who will add to the library environment needed concepts from other disciplines such as psychology, sociology, and public administration.

It is interesting to note that though there is an essential interchangeability of administrative skills, there is also a core of specialized knowledge and concepts which are best acquired through study and experience in the library field. This approach is essentially the same as that favored by Underwood in his study of the role of the hospital administrator. (Ref. 29 :24)

It should be noted further, however, that this view is different from the current thrust of the schools of business administration which have developed into much broader areas than business administration. Today the emphasis is on management,both as the newest profession and the central process in the conduct of any organization, according to a recent paper published by the Systems Development Corporation entitled "Grooming Tomorrow's Managers". (Ref. 28:4)

Thus business schools are dropping the word "business" from their titles to become "schools of management" and, through the use of interdisciplinary faculties, meeting the specialized requirements of management education so their graduates can possess broad management capabilities.

The fact that five out of the twenty interviewees stated that they only "mildly" agreed with offering the courses in the library school was largely related to the difficulty of obtaining qualified faculty to teach at the interdisciplinary level desired. This point of view as stated by one interviewee follows:

> If you had someone who was skilled enough in teaching these courses, it would make no difference where they were taught. But, if they were being taught by someone who was not really a broad expert with wide experience and knowledge in other disciplines, they would be too confined by the library school. It might be desirable to have the course taught by other graduate school faculties under direction from the library school.

Another who was only "mildly" for a library-based program put it this way:

> In relation to this higher administrative position about which we are talking, I am not so sure that the crucial question is so much the administration of the library as the broader

> concept of administering within a government framework. From my experience I would suspect that the administration requirements of even a deputy chief in a relatively large library are different from a high-ranking librarian in a smaller library -- this is the kind of frontier that does not involve traditional library backgrounds. Perhaps, for these higher level administrative positions in government libraries, provision would have to be made either for them to take work in the Department of Public Administration or have professors from that discipline come to the library school.

The many suggestions of the interviewees on how to get adequate interdisciplinary concepts represented in the courses that are to be offered at the post-master's level in the library school bore a general uniformity. The most practical suggestions made in this area may be synthesized as follows:

-- That library schools bring in specialists in other disciplines to teach, especially in the area of administration and management, or, better still, that the courses be designed by a team of experts drawn from library school and other faculties such as business psychologists, who know how to negotiate change; social psychologists, who understand human relations; economists, who understand professional manpower problems; educational technologists, who understand educational philosophy as it applies to using different media and different methods of teaching in actual presentation of the course; public administrators, who understand the unique problems of administration within a governmental framework. This recommendation would be in keeping with that of economist Ginzberg, who concluded at the end of his study on manpower for library services that:

> To some extent, the shortages of faculty in library science can be relieved only by drawing into the field more subject-matter specialists: men and women who can make a significant contribution to the training of future librarians even though they themselves are not professional librarians. There is no other possible source. This is a pattern that graduate schools of business, social work, and even law schools have followed and continue to follow.
>
> ...it does not follow that every library school must add specialists to its faculty..One of the strengths of a major university is its large number of specialized departments of instruction. Library schools should do more to tap into the departments which can help train their students. (Ref. 10:57-58)

-- That the courses offered at the post-master's level concentrate on the skills of management and the attitudes appropriate to their effective use in the job situation in order to achieve a balance of objectives which will more fully accomplish the library's goals, and at the same time yield greater satisfaction to the individual employed. It is interesting to note that a practical emphasis at this level of training, as opposed to a theoretical approach that (presumably presented at MLS level) is in keeping with current trends in schools of management as reported by the Systems Development Corporation in their paper on "Grooming Tomorrow's Managers". (Ref. 28 :3-15)

Beyond the confines of a specific course in human relations, the human factor is an important variable to be considered. The interviewees thought that the emphasis should be on achieving a curriculum that would effect a balance between the behavioral and technical aspects of the work situation. Here again, the interviews were in line with the thinking of the deans of leading schools of management, who predict to a man that "behavioral studies" will "bulk larger and larger in importance in coming years". Said one dean, " Managers must deal with a whole range of unstructured problems that don't lend themselves to solution by quantitative methods. The human factor is the dominant variable, and while we don't yet have the goals to deal effectively with this range of problems, I believe the schools will be attaching much more emphasis to behavioral science methodologies. Perhaps the key will be the interdisciplinary faculty." (Ref. 28 :14)

-- That although the courses should be presented in an interdisciplinary framework, in actual teaching "applications should be made", as stated by one interviewee, "whether it's a problem to be solved, an involvement in a team action situation, a simulated situation, a case study, a research paper, or a role-playing activity.

-- It was the general consensus that teaching methods be broadened to include the type of activities mentioned directly above, and that there be less lecturing, listening and note-taking and more thinking and problem solving as related to their real jobs.

-- That as full use as possible be made of the new technology and the new media in making course presentations.

When asked what terminal behavior patterns they would expect the librarian to have gained by participation in a post-master's program, the answers were almost uniformly attitudinal. The desired objectives were affective toward their jobs in general, rather than cognitive specifying skills or competencies.

Comments centered in two areas: attitude toward change and improved work performance.

Examples of comments relative to the librarian being an agent for change include:

-- Unwillingness to accept status quo; strong desire to innovate and experiment with new systems and services.

-- Residual benefits would generate needed changes.

-- Motivation toward new development.

-- Open-mindedness and flexibility; initiative to try new ideas.

-- Broader involvement in being willing to make policy recommendations.

Examples of comments relative to over-all improved performance are:

-- Improved performance generally, but wouldn't expect miracles.

-- Greater contribution generally, either in ideas or in actual production.

-- Broader understanding and scope of thinking enlarged.

-- Greater analytical ability to solve problems.

-- Better prepared to do the job.

When the interviewees were asked if they, themselves would be interested in returning for certain types of training, 70 per cent answered in the affirmative, mentioning from one to three courses they would be willing to take.

The courses listed were:

Administration
Automation (one course; one ADP Seminar)
Communications Technology
Communication with Management (outside the library)
Current Issues and Problems in Librarianship (two)
General Management (one wanted course; one management seminar)
Human Relations outside the Library
Information Networks
Logic
Network Planning and Design
Personnel
Research Methods , including Quantitative Numbers (two)
Systems Design and Analysis

Finally, two questions dealt with the preferred method for continuing education at the post-master's level. One question asked if updating was best done in the job situation rather than at the university. Fifty per cent of the interviewees disagreed with this statement and thought that going to a university was the best way. Ten per cent thought on-the-job training the best way. Forty per cent did not answer the question, explaining that they did not think there was "one best way", but rather a combination of ways. The fifty per cent who considered the university campus as the best locale for training programs gave reasons very similar to those listed by Kortendick (Ref. 15 :269-270) in regard to short-term training programs based on the university campus. Namely, that participants are removed from the supervisors and from the environment of the job, and are thus able to get a new perspective and to look at their work more objectively. The experience is to be intellectually stimulating, in approach and in content. There can be an opportunity for discussing problems with faculty and with people from other libraries. The theory which underlies the practice is often better transmitted in such an environment.

Finally, when asked about the importance of a developmental type of leadership on the part of the top library administrators in relation to either courses in the university setting or to in-service training programs, only 15 per cent thought that developmental type of leadership was more important. Eighty per cent disagreed. The 15 per cent reflected the philosophy of McGregor who postulated that:

> The individual will grow into what he is capable of becoming provided we can create the proper conditions for that growth. Such an approach involves less emphasis on manufacturing

techniques and more on controlling the climate and fertility of the soil, and on methods of cultivation. (Ref. 21: 192)

In other words these interviewees stress the importance of the librarian working for supervisors who delegate and who are constantly making it possible for their subordinates to further their own self-development. One interviewee underscored this by saying that when he was looking for a replacement for the position about which he was being interviewed (head of a library) he put prime importance on knowing who their previous supervisors had been. He put it this way:

> In looking for a replacement I would want to see who he had worked for. I have passed several by because I felt that they would not have had the kind of training that I require in problem solving, decision making or opportunity to grow on the job working under Librarian X. In other words, I am judging their capability for the job by their boss.

Perhaps the most important observation to make relative to this discussion is that courses taken in the library school at the post-master's level will have the maximum effectiveness only if the employee who enrolls comes out of an environment that is conducive to growth and will permit him to use any gains he makes or concepts he learns in the classroom.

Summing up this section, it can be said that the top-level library administrators were sympathetic toward a post-master's program. They felt (to the extent that 70 per cent of them were willing to come themselves and take courses offered in the program) that the chief gains from such a program would be to: (1) create a desire on the part of the participants to be an agent for change in their libraries, and (2) improve work performance generally. The majority of the interviewees saw advantages in developing a one-year's program, as opposed to merely a selection of courses at will, and of the offering of a degree (preferred) or certificate at the end of the program over no formalized recognition of completion. Two quotations from the interviewees illustrate their feelings in this regard:

-- I think the post-master's program would be a very good thing, because it doesn't seem to me that a person need necessarily commit himself to earning the doctorate. If he wants to take work beyond his master's degree, he should get some credit for it. If you offer a person some goal, it is much better than his simply taking this course and that course.

-- Yes, I certainly think the person should have a degree at the end of the program. That is recognition of the person's having completed an organized course of study. Because, after all, when you start to select and take what you need here and there you often end up with a sort of mishmash. If you were to offer this type of degree, you might induce some people to go back for additional training who are unable financially to go back for a doctorate.

The interviewees were in agreement that the content of the curriculum for upper and middle-level library personnel should be heavily oriented toward achievement of management skills and attitudes, and that, whatever the problems involved, the curriculum should be strongly interdisciplinary. The program, they thought, should be based in the library school because, although a relatively small percentage of the managerial and administrative duties performed represent specialized library functions, a large proportion of the knowledge required to perform successfully at middle and upper levels is of a "specialized" nature. Therefore, the interviewees recommended that the applications used in course presentation should be library oriented. The interviewees believed that librarians with some experience (3 1/2 years was the suggested average) would benefit most from such a program.

Attitude toward Workshops and Institutes.

When asked their opinion about the value of institutes, short-term courses and workshops, 85 per cent of the interviewees felt that this was a form of continuing education in which the library school should be involved in addition to whatever full-length courses the school might offer as part of a formal post-master's program.

Three of the interviewees, however, felt that rather than dissipating their efforts too widely, the library schools would be well-advised to concentrate on full-length courses at the post-master's level, but suggested experimentation in the timing, scheduling, and format of such course offerings so that a wider audience might be reached. Their reasons for questioning heavy involvement in short-term continuing education programs centered in their belief that the content of such short-term programs was so intensive that there were apt to be no lasting changes realized from such participation, either in the participant's attitude or knowledge. Too often, they felt, a person returning highly motivated from such a program found, when back in the same old job environment that, in the eyes of his supervisor, his brief exposure did not give him the right to try out new concepts in the job; his enthusiasm soon changed to discouragement.

However, one of these interviewees, out of personal experience, suggested a way in which these short-term programs might be made more meaningful in meeting the needs of the job situation. It seems worthwhile to mention this individual recommendation because of possible application to library school short-term programs in general. For reasons mentioned in the preceding paragraph, this interviewee felt short-term programs had little merit. However, in one specific case from this person's experience, it was possible for a group from one library to go together to a short-term workshop which concentrated on problem solving in a specific type of library situation. The interviewee found this particular type of group experience to be of great value, because it touched on practical problems their library was facing at the moment; and, more important, because a group from the library went together, it was possible to actually bring about changes in their library when they returned. Several people with improved knowledge or attitudes can make a potent catalyst of their common experience in a given library situation. The interviewee in question endorsed this approach as a valuable suggestion to make to library schools. By getting together a group of people coming from one library at the same time, rather than trying to fill the workshop with individuals coming from separate libraries, a greater impact would result. It is interesting to note that Vroom of the Carnegie-Mellon School of Administration states a similar solution to lengthening the life of lessons learned in short-term programs: "I expect that in the next few years we'll be focusing away from individual managers and concentrating on management systems. That is, bringing in teams of working managers in an effort to foster real environmental change." (Ref. 28 :11)

Returning to the 85 per cent endorsing the library school's involvement in workshops and institutes, it was discovered that about half were in favor of shorter workshops (one day to one week) and the others in favor of longer workshops (preferably three weeks or more). Those preferring the shorter term said they were just being realistic in terms of the number of people that could attend on that basis. The shorter term would permit anyone to attend without his job suffering. Another advantage is lower costs which make possible wider participation. Another reason given for the preference for the short-term format was that "there is an inclination to pack into them what is really needed -- the nub of the problem." On the whole, those for short-term programs admitted, however, that they were beneficial chiefly from the point of view of exposure to new concepts and cited the MARC institutes as being a good example of this. They stated that they realized the institutes were too short to provide any lasting attitudinal change for the individuals participating.

Speaking in defense of the long-term workshop, these interviewees still thought that they were probably not long enough to serve as an effective attitudinal change device (a long-term course was necessary for that); but if the workshop is primarily information-oriented, then a great deal could be accomplished. A three-week period is still short enough to permit participation by many librarians without having their jobs suffer, and may be more easily financed than longer-term kinds of educational programs.

Generally the type of subject coverage considered by the interviewees most suitable for institutes and workshops paralleled that favored by the respondents. In some subject areas the interviewees thought that the time factor prevented maximum gains. Courses in personnel management and human relations were generally put in this category. In addition to the time being too short for any type of attitudinal change, one interviewee expressed the idea that seemed to speak for many:

> In order for a workshop or institute to be effective, the participants have to know enough so that they can update themselves in a few days, at the most three weeks of concentrated effort. On the other hand, management is a foreign discipline, and I wouldn't expect much in the way of results.

Subjects mentioned by the interviewees as suitable as a base for a workshop or institute presentation included: new reference books for professional librarians; reference and resource material in a given area such as science or behavioral studies; acquisitions (especially non-book); Federal library resources, and, as mentioned earlier, the MARC program.

Finally, the interviewees stated certain criteria for workshops that they believed would be beneficial to those of any length. These merit inclusion:

(1) The groups should be homogeneous, such as military librarians who all work under the same regulations, Federal librarians all under the same civil service system, or any group subject to the same regulations.

(2) The level of experience and background of all participants should be similar -- otherwise a lot of needless time is spent in explanations.

(3) Coverage should tend toward the narrow rather than the broad. "I generally find workshops are aimed at too broad a group of people, and therefore are not satisfying, because they are not

specific enough to help me in my job. They have a little for everybody, and not enough for any one individual to make it worthwhile."

In this connection, several of the interviewees spoke with enthusiasm of special courses for top-level executives or for middle managers in which all had a similar background of experiences to share and a similar amount of knowledge to use in problem-solving situations presented in the programs.

(4) The content should be related to needs of the participants in their job situations.

Admission Criteria for a Post-Master's Program.

The designer of any educational program must give adequate thought to its admission requirements. As the analysis of the data from the respondents progressed, a tentative curriculum for a post-master's program slowly emerged. To build upon this, the interviewees were asked for their suggestions for admission criteria to a post-master's program. This section focusses on these recommendations. They were multi-dimensional, and they will be discussed one-by-one.

(1) Their most definite recommendation was the suggestion that the program would be more meaningful if the participant in the program had had some experience between his MLS degree program and enrollment in a post-master's program. The average time suggested by the interviewees, as reported earlier in this chapter, was three-and-one-half years. However, there was no clear-cut answer to this question, and the range in time was from zero number of years to six years. One interviewee expressed it in this manner:

> There's no clear-cut answer on how many years should elapse. It depends on the person. If he's a real go-getter and really keeps up with the field, I don't think it matters when he goes back. I think that he should take something he needs to know more about for his present job, or he should be considering new developments or what was lacking in his MLS preparation. In other words, I don't believe in going back to school to take a course just because it is beyond the master's degree; he should only be admitted to the program if it is based on a real need.

Two others commented:

-- Many of the things you would offer in a post-master's course would not be understandable until they had been out on the job for a while and had seen how they fit into their daily work. For example, it's pretty hard to teach someone about personnel management unless they've run across some personnel problems, and that's the best time in the world for them to learn -- when faced with actual problems related to the work situation. It's the old principle: when an individual sees the need for certain courses, then he is motivated to learn.

-- It seems to me you should not only be looking for technical competencies, but for the person with a broad background in librarianship; a person who seems to have, or has demonstrated, an ability to administer, to think and plan, and to work with people. So experience is important and also the type of experience. I think the breadth of experience is particularly important, for such a person can relate the library's mission and library services and materials to those in the agency outside the library.

(2) There was general agreement that one requirement for admission to the program would be a master's degree in library science so that all in the program would start with a common background in specialized library functions. This was considered necessary because a large proportion of the knowledge required to perform successfully at the middle and upper-levels in a library is of a "specialized" nature even though a relatively small percentage of the managerial and administrative duties performed represent specialized library functions.

(3) In order to enroll for certain courses, the interviewees thought certain prerequisites should be required. For example, as a prerequisite to a course in human relations, the applicant should have had a course at the MLS level in the principles of administration. Or, as a prerequisite to a course at the post-master's level in automation, the applicant should have had an introductory course at the MLS level in automated procedures in the library to insure that all in the post-master's program would have the same background on which to build. It was suggested that in the case of mature students with extensive experience in automation, work experience might be considered in order to reach an acceptable standard for admission to the course in automation.

(4) Some of the interviewees expressed the hope that the admissions program would be flexible enough to provide for a mix of people with different value orientations. Corson and Paul (Ref.7 :129-180) pointed out that there is evidence that those who excel in

academic work may not include proportions of individuals with the proper "mix" of talents necessary to handle the full variety of management and administrative responsibilities. The type of value orientations which Ginzberg and Herma (Ref.11) found that profoundly affect organizational performance and ideally should be represented in an organization are: (1) those wanting to achieve leadership roles with groups of individuals; (2) those content to gain and hold acceptance by other members of their work group as a prerequisite to achieving organizational advances; (3) those dedicated to ideals which are likely to provide the zeal and enthusiasm, if not the intellectual leadership, that inspires organizational advances; (4) those who are insistent upon their right to structure their own activities and to be able to work as independently as possible.

The implication is that admission requirements should be liberal enough in regard to previous academic record to provide for differing value orientations which determine the role the individual wishes to fill in the library's program. It is thought that through this procedure, an adequate supply of talent will be developed for the middle, upper and top-level management and administrative positions.

(5) As the suggestion is being made in the literature today that applicants to graduate library programs be screened in order to obtain individuals with certain personality characteristics (Lilley, Ref. 18 :171-172), questions were asked both of the respondents and of the interviewees which yielded information on the great importance each of these groups placed on personality characteristics in relation to job performance. Twenty per cent of the interviewees felt that personality characteristics were so important (and so little subject to change) that they recommended that all applicants to a post-master's program should be carefully screened in order to obtain certain personality traits for the program and keep those with less desired traits (according to the value judgments of the interviewees) out of the program.

As there was so much interest expressed in personality characteristics on the part of both the interviewees and the respondents, the possibility of screening for personality traits at the time of admission to the post-master's program is discussed at some length.

Relation of Personality Traits to Admission Requirements.

Just as information center experts have insisted (Lilley cites many examples: Ref. 18 :171-173) that certain personality traits are needed

in order to serve the scientific community effectively,[1] the interviewees believed that certain traits were needed for those filling the positions about which they were being interviewed. Twenty per cent suggested that the library school should look for these qualities of personality in those seeking admission to the program. The traits the interviewees saw as most desirable were:

-- A good outgoing, forceful personality, but a pleasant one that doesn't get rattled easily, is patient, can meet deadlines, and, most important, is receptive to change.

-- Decisiveness is a key factor. We're going to have to look at their skills at doing professional management tasks. We need decision makers who can quickly fight their way through to what is the real issue, what is the problem that we are faced with, and develop some mechanisms to solve the problem.

-- The most important thing needed is someone who can organize and motivate people and look at the whole operation very critically and very analytically. This can be the key difference in the management of an operation.

-- We've got to have people who have not just gotten along for years, but people who can make imaginative, innovative suggestions for program improvement.

Those who advocated screening out certain kinds of personality traits at the admission threshold, mentioned more or less the same traits that have come in for heavy criticism by many observers (Ref. Harvey, 12:1; Schultz, 26:513; Bergen, 4:478; Lothrop, 20:132-133; Muller, 24:1128) and the research findings of Morrison (Ref. 23:365-368) and Douglass (Ref. 8). The interviewees stated these personal characteristics which generally showed lack of the qualities of initiative and leadership, in these terms:

-- Librarians tend to be highly introverted types; basically they lack an aggressive character. These people now are being asked to supervise other people, and they are not equipped to do this. They don't have the insight. This is an overwhelming problem to the profession.

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[1] Longnecker states that "They must have personality traits that are opposite from those of the librarian or information specialist who works alone, independent of others." (Ref. 19:12)

-- The personality traits of librarians are one of our great problems. They simply don't have the personality to reach out to the user, and by the time such a person is ready to go for postgraduate work, his personality traits are so ingrained that he is not going to change.

-- A librarian tends to be a gentle, easy, nondecisive person who wants no problems with the world. He just wants his books, his periods, his commas and his cards to be in order. He is retiring and not aggressive enough; he favors the status quo to change. Unfortunately this is the type, because they often made straight "A's" in their MLS program, that is appointed to the top positions.

-- In general, the type of persons that are attracted to librarianship are not what you would call aggressive, outgoing types.

Desirable Personal Characteristics as Perceived by the Respondents and the Interviewees: A Comparison and Conclusions Therefrom.

The characteristics the respondents described as the most important for their replacement (Chapter VI) are very different from those found in the responses by the interviewees or in the literature. For the respondents, the three most important personal traits for a replacement were (1) getting along with other people (2) adaptability or flexibility and (3) patience. They referred to getting things done routinely, rather than referring to characteristics that a leader should have.

The comparison between the type of characteristics suggested by the interviewees and the respondents is significant, especially when examined in the light of a research paper by Porter and Henry (Ref. 25) on perceptions of the importance of certain personality traits as a function of job level. This study investigated managers' perceptions of the relative importance of 10 personality traits for success in their managerial roles as a function of level of position within management. The ten traits consisted of five other-directed or organization man traits, and five inner-directed traits.

As shown in Appendix Table XXX the results showed that the inner-directed traits (forceful, imaginative, independent, decisive) were perceived as more important at each higher level of management, while the other-directed traits (cooperative, adaptable, agreeable, tactful) were seen to decrease at each higher level of management. It would appear that the inner-directed traits, showing a strong emphasis on individual capabilities, are very similar to the most desirable characteristics as perceived by the interviewees, namely: being decisive, innovative, forceful, outgoing, and an agent for change.

On the other hand, it would seem that the other-directed traits, showing a concern for adapting to the feelings and behavior of others (Ref. Porter, 25:31) are very similar to the characteristics cited by the respondents, namely: getting along with other people, adaptability, flexibility, and patience. The results of the Porter and Henry study point clearly to the fact that the psychological demands of the job, in terms of relative emphases on different types of personality qualities, change from one part of the management hierarchy to another, and the data from this study (from the respondents and from the interviewees) substantiate these findings.

Speaking of criteria of admission to library schools, Lilley (Ref. 18 :171) states: "At this juncture, it would seem appropriate to recommend that library schools look not only to academic preparation...but to the personality of the students who are to be admitted to a graduate program." After citing many examples showing how seriously librarians lack initiative and leadership and showing that certain personality traits are needed in order to serve clients more effectively, she reaches the following conclusions:

> Under the circumstances, it would seem that library schools ought either to screen their applicants for personality characteristics in terms of what is needed or to provide the kind of education that will develop in them the necessary qualities of initiative, creativity, and competence. (Ref. 18 :176)

The data from the present study would seem to indicate a conclusion different from that stated by Lilley regarding admission criteria in relation to personal characteristics, at least for admission into a post-master's program. The present findings would seem to indicate that individuals at different levels of the library organizational hierarchy perceive different personality characteristics as important for job success. From the whole spectrum of personality traits, some seem more useful in attaining success at one level of the library structure and some at another level; at different levels of management they are, to a certain degree, at variance with one another.

Therefore, it would not seem very judicious to arrive at a single set of personality characteristics to accept with others screened out. Library schools need to insure the proper mix of people to handle the variety of responsibilities to be borne by the library in order to give quality service.

Returning to the second suggestion in Lilley's recommendation to library schools, it will be remembered that she stated that if applicants were not screened for personality characteristics, then

the school should "provide the kind of education that will develop in them the necessary qualities of initiative, creativity, and competence." Many of the interviewees asked whether a course in human relations could have any effect in changing attitudes. The interviewees seemed to feel that only through attitudinal change would it be possible for there to be any great improvement in the ability of the individual librarian to interact with others with whom he worked.

The interviewees agreed that to a large extent the success of a library's operation depends on how effectively the manager or administrator uses this personal interaction, but some wondered if much could be done in equipping those who came back from the program to learn how better to handle these personal problems.

In answer to the question whether or not a course in human relations could be helpful to the librarian in coming to grips with the problems growing out of personal characteristics, thirty per cent of the interviewees expressed doubt that a lot could be accomplished, but saw it as probably the best way to experiment in trying to help librarians with this problem. Two of the five who expressed doubt as to final outcome expressed it this way:

-- I think courses in human relations could do a lot, but am afraid that when the librarians are back in their same old job environment, not many changes will be possible. However, I think it would make them aware of the challenge they have as supervisors and that they may become more competent in some ways. Certainly they should become more professional from having had such a course. In the free atmosphere of the university there is a greater chance that improvements could be made than back in the job situation.

-- Courses won't necessarily help in the development of personality traits or in the ability of the supervisor to understand the personality traits of others. I'm afraid that so much is dependent upon native ability, energy, self-assurance. I don't know how to develop skill in human relations, or if it can be taught, but it would be at least worth a try to see what could be accomplished in a course.

The general opinion seemed to be, in spite of questions raised about outcomes, that libraries have become increasingly more complex and businesslike organizations that impose tremendous communication and personal interaction requirements on their managers, and that somehow the library school should be able to help the library managers to deal with such unstructured problems as arise each day and claim a large

proportion of the manager's time. Such a course should also be able to help the participant develop a greater awareness and understanding of his own values and attitudes as they affect his relationships with others in the job situation. It becomes apparent that in the development of such a course the whole spectrum of personality characteristics in relationship to the whole spectrum of job levels would need to be included in the potential scope of the course if the participant is to gain increased insight into the motivation and behavior of library staff members as they interact with peers, superiors and subordinates.

The interviewees were in complete agreement that this was one of the areas which called for interdisciplinary cooperation, especially in the area of behavioral science methodologies.

To sum up, it is unrealistic to expect that one course or program can develop the range of personality characteristics that are necessary to operate effectively at each of the levels of the library hierarchy. However a course in human relations can be used as a powerful aid in understanding human relations theory and research leading to applications in library administration, providing there is a positive environment in the job situation that supports the educational gains made in the classroom. It was noted in this connection, that during the interviews one phrase repeatedly occurred in regard to courses, programs and institutes: "...but I'm afraid they [course enrollees] won't really be changed much back on the job." This emphasizes what has been shown over and over again in recent research -- that a negative environment will wipe out all the gains that may have been achieved in the classroom. In fact, Likert goes so far as to say, in this connection:

> To expose managers to new and challenging data and ideas and then make it impossible for them to make use of their new insights and even penalize them for doing so, is highly frustrating. One can safely predict that managers so treated will have their performance adversely affected, and many, especially the more able, will seek a different company with a management system more compatible with their new insights. (Ref. 17:127)

If it is not feasible to rely simply on screening out applicants based on personal characteristics at the time of entry into the post-master's program in order to improve personal interaction in the library organization, and if it is not realistic to think that the whole range of unstructured human problems can be solved through a single course in human relations, the question arises, "Is there another method available to deal with this range of problems?"

In view of the fact that personality characteristics play such an important role in library administration, it might be worthwhile to try the educational method for improving the skills of social interaction that has been widely advocated by some leaders (Argyris, McGregor, Refs. 1 and 21) namely, the sensitivity group or "T" (for training) group. The common pattern, which involves a two-week program during which the "T" group meets daily for two hours, might be provided on an optional basis, as a supplementary program for those who complete a course in human relations. In other words, it would be a module of the program that could be participated in by the individual in the program, or not participated in as he chose.

There is nothing mysterious about this form of training. Conditions are created by which individuals can increase their understanding (1) of the impact of their own behavior on others, (2) of their reactions to the behavior of others, (3) of the phenomena of group activity and their significance. It is not expected that such training would bring about dramatic changes. A librarian who has been to a sensitivity training group does not become a new person, but he gets acquainted with the process of self-discovery and the opportunity is present for him, because participation in the "T" group involves practice and feedback of a unique nature, to improve his skills of social interaction.

All of this discussion adds up to the conclusion that personal admissions criteria for any post-master's program is a complex and many-faceted problem; one for which there is imaginative research needed. It needs to be emphasized that the characteristics reported on in this section from the interviewees and the respondents are both based on perceptions by librarians themselves. However, before any firm conclusions or recommendations can be reached, it will be necessary to survey the users concerning desirable personal characteristics found in an efficient librarian, for in the final analysis, it is they who are the consumers of the product.

It can be surmised that the personal traits listed by both the interviewees and the respondents are oriented largely toward successful human relationships within the library organizational framework, but this, after all, is not the sole criterion for judging the efficiency of the library's service. It is quite conceivable that a librarian might be extremely poor in his interactions with other personnel within the library organization, but might do excellent work in isolation in producing the information demanded by the clientele. The personal traits perceived by the librarians concerned interpersonal relations with others in the library hierarchy of employees. Resesarch needs to be undertaken, as was pointed out by a number of the respondents, which will come to grips

with the quality of service given to the clientele, both actual and potential.

The Post-Master's Program in Relation to Career Development.

It was the general feeling of the interviewees that, as expressed by one of them, "Right now, the only way our people can progress is the administrative way." However, 35 per cent of the interviewees hoped that a rationale might be developed providing for different career progressions in librarianship as brought out in Asheim's (Ref. 2) recent paper on "Education and Manpower for Librarianship." In stating their reasons for not thinking administration should be the only career ladder, one interviewee said:

> -- I don't like to think of administration as the only way to the top, because I have seen some very good people who are natural catalogers, or geniuses at matching people with books or people with the information they need, or at being able to communicate with just a few questions, finding out what the individual is really after and getting it to him. To me, we would be losing one of the purposes, if not the main purpose, of librarianship to push them into administration and not to provide an alternative ladder to higher salaried positions for them. This is one thing I liked particularly about Dr. Asheim's position paper. He brings this out -- career ladders for the non-administrator as well as for the administrator; and I would certainly hope to see this.

However, today there is only one career ladder. The jobs at the top are mostly administrative positions. Hence the individual librarian should be aware of the requirements for this advancement in the profession, whether he chooses to pursue his career in bibliographic services or clientele guidance, or whether he wishes to advance in administrative positions.

If the librarian chooses to advance as an administrator, he will need, for example, certain competencies such as the ability to direct others; an understanding of the processes of management; a respect for the importance of motivation; a thorough understanding of the library as a total system as well as an understanding of the environment in which the library is situated.

To provide for these administrative competencies, the interviewees saw the post-master's program as possibly being developed with a specialization in administration. However, for those pursuing career advancement in paths other than administration, the librarians felt a differentiated program at the post-master's level might be

developed by different schools. Eighty per cent of the interviewees thought schools at this level should specialize in certain areas to meet specific career needs. Only 20 per cent felt strongly that every school offering a post-master's program should try to meet the varied career needs of all who might wish to come back.

The interviewees generally give preference to promoting from within if they have a qualified person responsible for the job, although the Civil Service Commission's policy on promotion is open. If this is the general policy, as one interviewee pointed out, then it is necessary that provision be made for training those already in the library. One interviewee stated:

> Because I felt the internal training program was unusually poor, I had to fill all my jobs when I first came from without. This creates quite a morale problem, and I wouldn't have done it by choice if I thought I had any alternative. Unless management makes training a very significant part of its management process, there is no other way of doing it. Therefore, one of the first things I did was appoint a training officer. They didn't have such an animal. I took a trained librarian on the staff and said, " From now on your job is to see to it that there are adequate training and development opportunities for the rest of the staff -- to see that all of the staff is trained. By now, over one-third of the staff has participated in some sort of a training program. Morale has gone up, and turnover has gone down. I realize that it cannot all be attributed just to training, but it is certainly a major factor.

To develop a staff over the years, one needs to plan for their career development as well as to do some forecasting to estimate just what kinds of positions and competencies will be needed ten or more years hence. Once such a rationale has been developed, there is a need for regularly examining and improving the process of assignment, training and promotion. It was apparent that the large majority of the interviewees did not think that they had an integrated development program to develop the individual librarians to their greatest capacity. Nor did they believe that updating is done best in the on-the-job situation rather than by returning to the library school (Table 51). This was well expressed by one of the interviewees:

> I think formal course work is very necessary, as the on-the-job training is not sufficiently well organized to give them what they would get in a formal course. However, each library has its own peculiar procedures; these must be taught through on-the-job training.

Hence, the need is for each library administrator to establish career-long processes that develop the talent required to operate the library at the highest level possible. This would mean development by all means of training -- one important means of such training is post-master's education at a university.

Preference for Those Who Have Completed Post-Master's Program. When asked if the librarian returning to work with an additional degree or certificate from a sixth-year program would have an advantage for consideration for higher grade and/or salary, the interviewees generally stated that they "would consider it a plus". But specifically just what this "plus" would be seemed to be unclear and to vary greatly in the minds of the interviewees. On the whole, the attitude seemed to be one of waiting to see what the program contained before any type of statement could be made.

-- I suspect a good test of a training program would be a person coming back beginning to perform as a manager just as he began to perform as a librarian when he came out of library school. I would hope so. This would have implications for me. I would suspect and hope he could do many things in the management line that at present I find necessary to do myself, for example, in the area of budget preparation.

-- I think the person with the additional sixth-year program might have a chance of making a higher grade than the one with only a master's. I'm not sure this could be borne out by any actual experience. Generally, we would tend to equate an additional master's with one-year of experience, I believe.

The research team was also interested in discovering the attitude of the interviewees in regard to the question whether the librarian returning after participating in a post-master's program would have an opportunity to use the acquired skills in the job environment.

The general response was that they would try, but in no formal way. What the team was looking for here was whether or not the interviewees would be receptive to the librarian's experimenting with new ideas and concepts in the old environment when he returned to it. However, in the spontaneous reponses, not too much of this came through. The answers of the interviewees tended to be more of a formal approach to whether or not they would allow this.

Financing for a Post-Master's Program. Almost all of those interviewed expressed their willingness to support their employees' efforts toward further formal professional schooling, and there was a wide range of

opinion on the actual on-the-job feasibility of such action. Although the same Training Act is in force for all Federal employees, the range of interpretations as to how provisions of this act might be applied toward librarians participating in a post-master's program ranged from authorized payment for one or two night classes only (no leave involved) to leave and financial support for a whole year's program. These variants are in part accounted for by the differences within the individual Federal libraries represented: such as size of library staff; promotion policies; status and character of the career development programs in various agencies; and individual interpretations of how much help would be available from the Training Act.

The size of the library staff seemed one crucial barrier to the actual ability to release an employee for a semester or a year's study, and to have a post vacant for him on his return. The larger the staff, the greater the chance to handle this efficiently. For this reason there was considerably more expression of possible support for leave and funds to study on a part-time basis than on a full-time basis. These comments explore the relationship of size to feasibility.

> If our library were very large, I would look for several to send all the time -- three, four, or six-month classes -- hoping they would return and be able to fill vacancies as they arose. But we are small, and I can't do that. If they were gone and an opportunity to promote came up, I couldn't wait for them to return. I would have to look outside for a replacement.

The feasibility of sending an employee to a year or six-month's post-master's program is explored here:

-- I would have no objections to employees taking courses which might lead them to something better, except that I would probably not pay their tuition. When a person wants to broaden his knowledge in a subject field or librarianship, I think I would say, "Do it on your own time and financing."

-- I don't see how I could let them off for a semester to study. I don't see how we'd get the work done. Once our people are in line to advance and have a great deal of loyalty to the institution, we would rather not send them off.

-- If I gave an employee time for study, the course would have to relate very closely to either what he was doing today or what we were hoping to do as the next step in the area the person was working in. The course description would have to convince me that the level is beyond that of the person now in it, or we couldn't afford to send

him. For example, we are facing automation work in the library, and everyone in the library is slowly picking up some knowledge. However, I need but one automation project manager for the major task. I would be willing to send the one person I thought best for that post and tell him that he could take all the time he wanted to take one or two courses in data processing and systems analysis. I think the payoff to me in that one person in three or four years would be great enough to provide justification.

-- I would certainly encourage anyone who wanted to take a post-master's program. But whether we could send them, I very much doubt. I don't think the library could pay for their cost under the Training Act, for instance. Because we want to encourage them we would consider giving them time off.

-- I can't spare incumbents too much. I want them to develop; I want them to move along on the job, but I would prefer to have short courses, because we just don't have much time.

-- If a program is needed by an individual, I would send them with salary plus per diem allowance and travel expenses.

-- If I felt the program was to be worthwhile and needed, I'd be willing to give them as much as a year to study.

-- We give as high as a third of our staff time off with pay to go to school now. We even pick up the cost of the courses. We have a great deal of flexibility in letting people have time off.

-- On special occasions I could send people for a whole degree as part of a career progression program we have in our agency. They will give people as much as a whole year off from their jobs and pay them for it.

-- We could send people within the regulations on which our career development system is structured. It works like this: we nominate people for courses and we justify this -- the funding of it. The training officer concurs or does not concur. He screens out all requests that are not job-related. A person might wish to take two courses, and one would be approved on this basis --the other might not be. We generally have pretty good luck and normally have several people in continuing education each semester.

-- I think we are heading in the direction of letting people take time off from their jobs to participate in the type of post-master's program we are discussing. I believe I could get money for

courses, textual materials, as well as leave, because we have a rather extensive career development program. The Committee on Librarians has met regularly for about a year to discuss what could be done to promote career development of librarians and information specialists. Our emphasis in these meetings is on the individual, not the institution; to help the individual grow. It goes without saying that sometimes this will mean the individual's moving outside the department. Now they haven't moved around; they haven't been promoted; they haven't progressed. They've just been confined to one little spot in one department.

Realistically, in view of these statements, it seems that the majority of government employees have to study in these programs on a part-time basis. This conclusion is arrived at from a joint consideration of what the respondents said in answering the questionnaire and what the interviewees said in relation to the financial aspect for participating in a post-master's program. This, of course, is very discouraging, because of the large number of Federal librarians living far from an ALA-accredited library school (Table 40), even though as far as willingness to take a post-master's program was concerned, it was found to be independent of the distance from an accredited library school. However, if they have to attend on a part-time basis, actual participation would depend on their distance from the library school. Hence, for this program, distance from a library school would turn out to be an important barrier.

SUMMARY AND CONCLUSIONS

In this chapter, the data presented was obtained from the interviews with top-level library administrators (grades 15 and up). The findings reflect the educational needs and desired competencies and skills of middle and upper-level librarians (grades 9 through 14). The 20 interviewees were selected on the basis of quota sampling, and the findings are thus comparable. The salient features of this chapter that seem worthy of reiteration follow:

(1) The interviewees put into three mutually exclusive categories all of the 78 courses listed in the questionnaire, and from that a ranking was developed. The correlation coefficient between the two sets of rankings of the courses--the one by the interviewees, and the one by the respondents--was found to be moderately high (0.64).

(2) In particular, the courses in administration were ranked higher by

the interviewees, and courses related to information science ranked lower, as compared to the rankings of the respondents. In the area of automation, only one course, namely the one entitled "Automation of Library Processes" maintained the same high ranking with the interviewees, while the other two courses in automation slipped in ranking as compared to the ranking made by the respondents.

(3) In the area of administration, the course that topped the list was "Human Relations in Library Administration" which was one of the top courses selected by the respondents also.

(4) Specific skills and competencies needed by middle and upper-level library personnel, as perceived by the interviewees, were analyzed by major course areas. The fact that most of them fell within the areas of administration and automation further stressed the importance of these two areas.

Summarizing the general attitude of the interviewees to the concept of offering post-master's programs, the following ideas predominated:

(1) There was in general a favorable reaction from the interviewees toward offering post-master's programs.

(2) The interviewees recommended that in the development of such programs certain conditions should prevail: (a) that the programs be based in the library school itself; (b) that there be a heavy emphasis on an interdisciplinary approach to all content presented; (c) that content be closely related to on-the-job needs; (d) that a given school concentrate its offerings in one area and not try to meet the needs of all librarians who might wish to enroll.

(3) The interviewees believed that on-the-job training had value, especially in orienting the individual to the particular routines and practices of a given library, but that such training cannot replace a further need for formal courses.

(4) Generally, the interviewees indicated that individuals who had completed a post-master's program would receive preference in regard to promotion.

(5) After a thorough analysis of the favorable personality characteristics, as listed by the interviewees and compared with those listed by the respondents, the conclusion was reached that it would be inadvisable to adopt a policy of screening out certain personality traits at the time of admission to post-master's programs, even though such a procedure was suggested by some interviewees. Instead, the

problem of personality characteristics should be dealt with in the program itself and not be left to admission policies.

(6) Finally, regarding the financing of post-master's continuing education, the statements made by the interviewees represented the whole spectrum of possibilities from no support to total support. On the basis of the necessity for financial support as made evident by the respondents and the majority of the opinions of the interviewees, the conclusion was reached that realistically, unless the trend now present against Federal financing of post-master's programs below the Ph.D. level is reversed, the majority of those wishing to participate in programs would have to be accommodated on a part-time basis.

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CHAPTER VIII

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

In Chapter VII the findings and the analyses of Phase I of the research project entitled "A Study of Job Dimensions and Education Needs: Post-MLS Education for Middle and Upper-Level Personnel in Libraries and Information Centers" are concluded. In this chapter the general conclusions and recommendations emerging from the study will be discussed. Since at the end of each chapter the specific findings for the chapter have already been summarized and discussed, they will not be repeated, except as they relate to major conclusions and recommendations. This chapter will also present the limitations of this study and indicate avenues for future research based on these limitations.

Comments on Methodology.

By way of introduction, a few statements regarding the methodology of the study seem worthy of reiteration. The random sampling of the librarians lends validity to the questionnaire results reported in the earlier chapters. The study demonstrates how a job inventory, competently analyzed, can provide valuable information toward curriculum building. The project also uses information from two hierarchically different levels of professionals effectively fused to provide guidelines for continuing education within the profession. This suggests that professional curriculum building need not be an unscientific trial and error method unrelated to actual, data-verified needs.

The study concentrated on the continuing education needs of librarians at the middle and upper level (grades 9 through 14) in the Federal complex. However, conclusions reached in this study for these levels may be applicable to the whole profession since it would seem apparent that Federal librarians form a representative sample of practicing librarians from each comparable level.

Major Professional Problems Reflected in Study.

Although the central thrust of this analysis has been in the area of curriculum building at the post-master's level, the study is broad in its dimensions, and indicates the multiplicity of problems that the library and the library profession face today. In his penetrating and thorough study entitled "Professional Education and the Public Service", Mosher (Ref. 16:66-67) outlines four major underlying problems facing professional education today. The present study produces evidence

that all of these problems are present within the profession of librarianship. It is not within the scope of this study to answer all of these questions, and it must be borne in mind that the information relative to these problems that is presented from these research findings reflects the opinions of but two groups within the profession -- the Federal librarians at the middle and upper levels of management, and the top-level administrators of Federal libraries. Although it is postulated that their reactions are probably typical of the profession as a whole, further research is needed to substantiate the validity of this conclusion.

Answered or not, the problems themselves are important, and they certainly merit the close consideration of educators who are concerned with restructuring the basic professional MLS program as well as educators who are planning post-master's programs. They also indicate lines of research which would be beneficial at this particular time. These problems of the profession that have particular relevance to professional education are:

(1) Professional Boundaries and Spillover Problems. To what extent should professional education for librarianship invade zones beyond the traditional boundaries of the profession? More broadly, how should educators define the content of the profession? For example, what should be its stance toward automation and computer science, toward information science, toward systems design and analysis ?

When a profession uses the strategy of widening the boundaries of its own activities by taking in a broader foundation of knowledge and enlarges its operation to include a broader range of activity and responsibility Mosher warns, "The process of assimilation in competition with other professions may be difficult and highly competitive... The ensuing digestion can be most disruptive, even destructive of the unity and integrity of the profession itself." (Ref. 16 :25)

(2) Intra-Professional Fission. To what extent and at what stage should sub-specialization be recognized or encouraged in the educational process ?

The broadening of knowledge at the base of the profession, coupled with the widening boundaries of its legitimate operations, tends to have a divisive effect upon the profession as a whole. Individual groups whose work is focused on common problems, distinct from the profession as a whole, develop a sub-community of interest. As these sub-identity groups grow strong, the ties to the broader parent profession become weaker. Thus the process of specialization forces subdivision into professional segments and subsegments

which weakens its identity with the parent profession. The question arises: how much of this type of subdivision based on specialization should the professional school encourage? It is important to realize, as Mosher points out, that professionals can only continue to exercise social and political influence as long as they can maintain to the public the appearance, or the illusion, of internal unity. As a consequence:

> ...there is a continuing striving for a basis of unity which will tie the many strands together, yet maintain a clear distinctiveness from other professional groups. There is a search for a common basis in doctrine, acceptable to all, but not so generalized as to be meaningless. And there is a search for a common, central core of knowledge and technique. (Ref. 16 :27)

(3) Obsolescence. How should professional educators cope with the accelerating growth of knowledge relevant to an individual profession? How much emphasis should the profession as a whole give to continuing education? In a rapidly developing profession, a practitioner may be at his peak between 25 and 35; by the time he reaches 50 he may be totally obsolete unless he has taken positive steps which are within his range to cope with obsolescence. Fortunately, the educational process by which the professional is kept up-to-date can be studied and made to cope with this problem. The pertinent questions would seem to be: (1) How can those older in the profession gain these skills and competencies that are essential for the continuing successful fulfillment of their jobs, and (2) How can they be motivated to take advantage of the opportunities that are offered?

(4) Organization and Management. To what extent and at what stage should professional education recognize and prepare students for managerial responsibilities which a large percentage of them will subsequently assume? This is one of the main problems dealt with in this study, but it is not unique in librarianship. It is a problem for all of the professions, for it has been found that a growing proportion of positions in business, as well as in public administration, are filled by those who have been given little, if any, training for their role as administrators and managers. This is the same problem than Corson and Paul (Ref. 2) devoted major attention to in their writing which has been cited earlier in this study.

Need for Upgrading the Profession.

The data from the study mirror existing problems in these four areas. Of critical importance, however, is the impression gained from the totality of the findings that there is an urgent need for a general upgrading of the profession. This term has a "catch-all" type of meaning as applied to professionalism, carrying with it many meanings,[1] but as used here it refers chiefly to raising the standards of professional education, especially at the post-entry level, and of raising the standards of performance on the job, including the undertaking of tasks now often left undone because of the amount of time spent on purely clerical tasks.

It should be pointed out, however, that as the profession is successful in this upgrading process, two changes will undoubtedly emerge as they have in other "upgraded" professions. One will be the further development of subprofessionals, supporting the occupation of librarianship, to perform essential clerical work which is deemed by the professionals to lie below the threshold of full professional caliber. This study provides ample evidence that professionals feel quite strongly about this differentiation and the need to train clerks where the decisive skills and knowledge of the true professional are not required.

The respondents were very discouraged by the large amount of clerical

[1]Mosher has defined "upgrading" in the following terms: "Within most of the professions, there seems to be a continuing, restless pressure for what is often somewhat ambiguously referred to as "upgrading". And within many of those occupational fields, there is similarly a pressure for upgrading in the direction of being recognized as a profession. The word is itself a catch-all, carrying a variety of different connotations, but these are seen as related and mutually self-supporting. Most generally, upgrading refers to the standing and esteem in which the occupation is held in society -- or at least among persons closely associated with it, and this of course applies to the individual practitioners of the occupation. It applies also,in some but not all cases, to the income-commanding power of the profession, its strength in the labor market-place. Indeed, its most literal meaning, in civil service terminology, is reclassification upward to higher-salaried grades. It means the raising of standards of professional education, of entrance, and of performance, and enforcing such standards with increasing strictness. It means, in a scientized society, becoming more and more scientific, rational, and objective, It means attracting better and better recruits into the profession; developing and enforcing codes of ethics; eliminating amateurs; and divorce from politics." (Ref.16 :30-31)

and subprofessional duties they were performing. This attitude was reflected in nearly every section of the questionnaire. In order to give an indication of how fully the respondents' talents were being used, the questionnaire asked how many hours per week were spent on avoidable detail work that the respondents felt should not be a part of their jobs. Ninety per cent reported spending from 1 to 38 hours per week. Only 10 per cent of those answering this question reported "no time" spent in this manner. This is in marked contrast to the 17 per cent who spent over 16 hours per week on avoidable details. The mean number of hours spent by the 321 respondents answering this question was 9.1 hours per week. The respondents pleaded for an answer from the library schools. It is interesting to note that the possibility of respondents enrolling for a post-MLS program (based on their statements of interest) tended to increase as the amount of avoidable detail work on the job increased.

A second by-product that will develop is the emphasis that is put on the idea of a career in librarianship. With the standards and qualifications constantly rising for new recruits to the profession, an increasing obligation is put on older practitioners to keep up through some form of continuing education in order to qualify for positions of leadership. Unless the older professional engages in continual professional development, experience alone can become actually disqualifying.

This increasing emphasis on the career concept is related also to the fact that as professionalization increases and professional standards rise, it will become more difficult for any individual to change his occupational field once his initial decision has been made. This study, as well as other recent ones cited in the report, has shown that a very large number (46.6 per cent in the study) have come to librarianship from other professions -- that is, librarianship has been a second career choice. These individuals out of other professions have two characteristic variables: (1) they are older (average age of the respondents in the study was 44.4 years); and (2) they have a greater number of years between the bachelor's and the MLS degrees -- which this research shows tends to decrease the likelihood that they will engage in continuing education programs. As upgrading of the profession increases, it will be increasingly difficult for those from other professions to enter, because of the number of years of education and the number of skills that will be necessary for them to qualify as professionals.

LIBRARY EDUCATION NEEDS AT THE POST-MASTER'S LEVEL

The primary means of meeting the need for upgrading the profession recommended in this study, is for a library school-based post-master's program, interdisciplinary in nature and of one-year's duration.

The section of the report dealing with this major recommendation is divided into three main parts. The first part attempts to identify the "why", and deals with the character of educational needs at the post-MLS level as revealed from the data collected in this study. Specifically, it presents answers that emerge from the survey to two questions: (1) Is there a need for formal course work at the post-master's level in librarianship? and (2) Are librarians with several years of experience (average of 14 years in this study) interested in taking courses at this level? In other words, if a program is offered, what will be the probable demand for it?

The second part discusses the "how", or the form and attributes that those in the survey recommended for such a program. The third part considers the "what", that is, what should be the content or course design of the program as indicated from the findings in the study.

Research Findings Indicating the Character of the Educational Needs.

In the study, the post-master's educational needs of middle and upper-level librarians were elicited in several ways. The self-perceived needs of the respondents to the questionnaire and the views of the top-level library administrators concerning the needs of this same group of middle and upper-level librarians are summarized. Taken together, this yields an over-all view of the needs for post-master's education of middle and upper-level (grades 9 through 14) librarians today. It was found that the character of the educational needs is closely related to, and results from, their present (as opposed to possible future) job activities.

Educational Needs from the Point of View of the Respondents. In Part II of the questionnaire entitled, "Your Educational Needs," the librarians indicated their interest in post-MLS library education in relation to three categories; "Course Now", "Course Later" and "Workshop". Seventy per cent of the respondents checked courses they would take in a "Workshop" format; 51 per cent checked "Course Later"; and 45 per cent checked "Course Now". There were, however, 135 respondents, some of whom checked "Workshop", who did not check either the "Course Now" or "Course Later" categories. Out of the 78 courses listed there was no course that was not checked by some of the respondents. Of the ten courses which the librarians ranked the highest in the categories "Course Now" and "Course Later", seven were in the area of administration and management, and three dealt with the automation of library processes and information retrieval. It is significant to note that this high interest in administration was also brought out in the job inventory where the

highest ranking categories were directing, planning, and staffing, and by far the highest single job activity, both in terms of the dimensions of time and importance, was "Directly supervise and guide subordinates".

Another evidence of interest in post-MLS education was provided by asking the respondents if they would enroll for a one-year post-MLS program (as distinguished from single courses) in library science. It was found that 38.9 per cent of the respondents stated that they would enroll in either (both in some cases) the post-MLS year-long program or in a doctoral program in library science. The interest was far greater, however, in the one-year program (33.4 per cent) than in the doctoral program (16.2 per cent).

The degree of interest in both of these programs was generally the same for men as for women, and the same for administrators as for non-administrators. As the grade level increased, the interest in the one-year post-MLS program tended to decrease. In spite of this, however, 30 per cent of the respondents in the study at grades 12-14 indicated a willingness to take a post-MLS program (as compared with 38.9 per cent over-all demand); thus there is evidence that, even in the higher grades, there would be a considerable demand for such courses if they were provided. The findings do indicate, however, that spcial motivational factors would have to be taken into account if a substantial percentage of those in the upper grades are to be reached by post-MLS training.

These personalized criteria are the same for the one-year program as for the doctoral program. Some practical considerations of the prospective scholars are: the need for partial or total financial support, stipulations about curricular content, leave of absence concerns, accessibility, and the desirability of flexible scheduling.

In addition to post-MLS programs in library science, 29 per cent of the respondents stated that they would enroll for a graduate program in other subject areas at a pre-doctoral level. Administration and management (24 respondents), history (14), literature (12), information science (8), and biological and medical science (6) were the most frequent fields listed.

In answer to the question, "Would you enroll for a Ph.D. program in another subject area?" 15 per cent of the respondents answer "yes". History (9 respondents), foreign languages (7), and administration and management (5) were the most frequent fields listed. Only two listed any of the natural sciences (earth science and mathematics); two listed information science.

Related to the professional problem of obsolescence the following findings seem significant:

(1) Respondents were asked to indicate what formal study they had engaged in since receiving their library science degree. Only 15.1 per cent reported they had taken six credit hours or more; 27.7 per cent had taken less than six hours and/or a workshop: 57.3 per cent had taken no formal course or workshop in any field. A further analysis showed that those who have already engaged in some more or less formal continuing education were predominantly those who are interested in post-MLS degree programs.

(2) Nearly one-half (48.5 per cent) of the respondents (67.2 per cent of the administrators and 32.8 per cent of the non-administrators) listed courses they lacked that would have been especially helpful to them in their present positions.

(3) It was found that because of deficiencies in training, over one-fifth (22.2 per cent) of the respondents reported that they were not performing duties in their jobs which they felt were required.

Educational Needs from the Point of View of the Interviewees. The top-level library administrators revealed through the interviews that they were in favor of a post-master's program being offered. Generally they considered such a program important enough that they stated they would allow full-time employees to attend on a part-time bases. Relating possible post-MLS programs to on-the-job training, the interviewees felt there would always be a need to provide on-the-job and in-service training opportunities, but that such training programs did not take the place of, nor did they serve the same function as, education by means of library school based formal courses at the post-MLS level.

Although the interviewees agreed on the importance of the availability of post-master's educational opportunity, they differed somewhat with the respondents in their priority rankings of the courses to be offered (correlation coefficient of .66 between the ranking of interviewees as compared with respondents). The specific skills and competencies needed by middle and upper-level library personnel, as perceived by the interviewees, were mostly in the areas of administration and automation. In particular, the courses in these two areas were ranked higher by the interviewees and courses related to information science ranked lower, as compared to the rankings of the respondents. In the area of automation, only one course, namely the one entitled "Automation of Library Processes" maintained the same high ranking with the interviewees, while the other two courses in automation slipped in

rank as compared to that of the respondents.

Some Educational Needs Revealed from Background Characteristics of the Administrators. The study revealed that 63 per cent of the respondents were administrators, that 44.8 per cent of the administrators were heads of libraries or library systems, and that the average number of people supervised by this group was 10 library employees. The question arises whether, on the basis of their professional degrees and experience gained on the job, these library administrators had acquired a solid grasp of the management skills necessary to fill these positions. Specific training for administrative positions was not apparent from the findings of the study.

What the responses revealed concerning the administrators was: (a) the graduate degree in library science was the last degree received for 94.3 per cent of the administrators; (b) English (24.4 per cent) and History (10.9 per cent) majors predominate; and (c) the total humanities (43.5 per cent), the social sciences (25.2 per cent), and the sciences (10.9 per cent) provided the subject backgrounds for the library administrators. Only three (1.3 per cent) of the administrators had an undergraduate major in administration or management, and only one had obtained a master's degree in administration or management. Of the 81 respondents listing activities in relation to their present position that they should have been performing, but were not because of deficiencies in their educational background, 76.5 per cent were administrators. Courses for credit following the library degree generally concentrated again in the humanities and social sciences, which would not directly contribute to managerial skills. Although the administrator averaged 17 years since completion of his library degree, 53 per cent had taken no formal course work (including workshops) since receiving it, and only 15.7 per cent had taken six or more hours of formal course work. It is true that these administrators had the advantage of experience, but as Harlow (Ref. 7:6) recently pointed out:

> Experience is a famous but unorganized teacher, and most people learn to "role" with it rather than let it strike off fresh ideas and solutions. Its lessons are often poorly structured, are inferred rather than obvious, and are overlooked or forgotten because they happen in such an ordinary way. Only the discipline of formal education -- systematic, questioning, interpretative, open-ended, and demanding -- can hope to keep up to date with today's growth and change.

Perhaps the most hopeful sign from this study is that overall, 39 per cent of the respondents (average age 44) and 37 per cent of the administrators (average age 47), all of whom will continue to exercise leadership for the

next ten to twenty years, themselves acknowledged the need for increased training in the areas of administration and management, and automation. Through retraining they can overcome limitations growing out of their past education and build upon their past. Such programs, however, are costly for the library school that provides the opportunity for formal study and also for the individual in time and resources. Some of the difficulties of financing are presented in the next section.

Relation of Demand for Program to Financial Aid. It would be highly unrealistic to reach any conclusions concerning the real demand for a program at the post-master's level without taking into account conditions which the respondents indicated would be necessary for their enrollment --and over 90 per cent listed such conditions. Personalized criteria mentioned earlier such as recommendations for curriculum format and content are discussed elsewhere in this chapter, but here special attention is focused on the primary hurdle -- financial aid. Of those interested in a post-master's program of one year's duration, 36.9 per cent stated that partial,and 13.1 per cent that total, financial support would be a necessary prerequisite. In addition, 20.6 per cent said leave from their present position would also be a requirement. As might be expected, this was even higher for those expressing an interest in doctoral programs: 50.9 per cent indicated the necessity for partial financial support; 13.6 per cent said that total financial support would be required; and 15.3 per cent would expect leave of absence from their present jobs.

At the present time the interviewees saw little possibility of giving full support to those employees interested in post-master's education on a full-time basis. They did indicate that they would support employees attending on a part-time basis by granting leave, and in some cases the interviewees indicated that they thought they could get funds to cover the cost of tuition if the course were closely related to present job needs. In view of the comments made, however, it was apparent that the majority of Federal librarians would have to participate in continuing education at the post-master's level on a part-time basis. It was found, however, that 40.8 per cent of those librarians indicating they were interested in studying in a post-master's program were living more than 30 miles from an accredited library school. Even though it was found that as far as willingness to take a post-master's program was concerned distance from an accredited library school was not a factor, if attendance is possible only on a part-time basis actual participation would become dependent on distance from an accredited school. Therefore, taking all these factors into consideration, unless the trend now present against Federal financing of post-master's programs below the Ph.D. level is reversed, our sample indicates

that the majority of those wishing to participate in programs would have to be accommodated on a part-time basis, and approximately 40.8 per cent would not be able to attend at all on this basis.

Imparting knowledge is by no means an exclusive prerogative of the university. Practicing librarians can learn from many sources and many experiences, but educational institutions have traditionally been looked on as a source of additional knowledge. The education of the librarian should be a continuing process, and it can be aided periodically by his participation in formal academic programs, which can use the newest educational methods as well as recognize and enforce high standards needed to insure that time spent in study is worthwhile. Financial means must be found to prepare and offer up-to-date instruction in the selected fields where the demand is widespread if we are to make the best use of our professional personnel in the administrative and technological areas of librarianship.

The Form of the Education.

Findings from the questionnaire and the interviews shed considerable light on attributes of post-master's education which could either lead toward or away from participation in formal course work. High quality programs and practical courses relevant to their present positions were the two curriculum-centered conditions that were mentioned most often by the respondents. From the free response answers of the respondents and the interviewees, "quality" seemed to be equated with interdisciplinary and systems oriented course content, which provided for a variety of teaching methods.

Or, as one respondent expressed it: "New programs should be just that -- 'new' -- based on innovative methods which make full use of the modern technology available today." These recommendations and others dealing with the "how" of the program, including the popularity of the workshop format, are dealt with in this section.

Interdisciplinary Approach. The recommendation that all work at the post-master's level be highly interdisciplinary in its approach was brought out strongly both by the respondents and the interviewees. It was felt that this approach is necessary to tie together the general and specialized understandings of librarianship today and express them in some coherent framework that has practical application in a real library situation.

This suggestion is in line with a pattern that is generally being followed in management schools today. In librarianship it is particularly

important for two reasons. First, the recent introduction of the computer to the library had brought with it a variety of related techniques. Second, it has been found in recent studies, including this one, that librarianship has few within its ranks who have had academic training in the necessary quantitative and behavioral concepts, or the administrative skills, that are important for the library's fulfillment of its present objectives or the probable requirements of tomorrow's libraries.

The emphasis by the respondents and the interviewees on the necessity of an interdisciplinary approach is very significant, because it indicates that to all those in the survey, the solution they see as the best way to bridge the gap between the traditional and the new spheres of library science expertise is to enter into some kind of a cooperative team arrangement with those who have highly specialized knowledge in the fields of mathematics, social science, and information science. This attitude is reflected not only in the choice of courses considered most important for inclusion in the post-master's program, but also in the case of automation, the one new area in which there was heavy demand throughout the survey. In each instance, the findings indicate that it should not be by having the librarian become an expert in such divergent new fields as computer programming, game theory, cybernetics, and the requisite mathematical frameworks, but rather by having him develop an ability to cooperate and communicate with experts in these fields so that problems could be worked out from a "team" approach.

To test the practicality of this suggestion, in Phase II of the project, one of the courses is being developed by a social psychologist, with the assistance of the research team and the cooperation of an educational technologist, a public administrator, and a library administrator. It should be noted, also, that this drawing into library education of those from other disciplines represents a practical way of handling existing, and likely to be continuing, library science faculty shortages.

Systems Approach. The foregoing remarks underscore the need expressed by the interviewees for a systems perspective as a way of applying an interdisciplinary approach in the development of courses and curricula. A systems approach is concerned with providing a coherent framework for describing general relationships as a unitary whole. "The term 'systems' is generally used by social scientists to refer to an assemblage of components (characteristics of individuals or of groups of individuals) that have an ordered pattern of interrelationships." (Ref. Katz. 12:17-18)

> A systems perspective has five characteristics: there is a set of identifiable elements or components; these system components have interrelationships; the relationships have consequences; these

> consequences have further consequences (including the future set of relationships); both sets of consequences have effects on the objectives or outputs of the system. (Ref. Katz. 12:18)

In addition there are analytic techniques associated with, and helpful in, its use.

The systems approach to education, as summarized by Ofeish (Ref. 17), one of the concultants for Phase II of this research project, "involves the specification of behavioral objectives, the assessment or student repertories, the development of instructional strategies, testing and revising of instructional units (validation), and finally packaging and administering the validated learning system." Such an approach results in the development of learning experiences which are adjusted to students' needs and learning modes. The learning experiences are designed to produce the behaviors specified for each course. In other words, the specified behavioral objectives would be the constants of the system.

In particular, a systems approach facilitates the integration of knowledge from many sources with the concerns of a particular course. It is recommended that the systems perspective, therefore, should suffuse all of the courses planned at the post-master's level.

Practical Approach Based in the Library School. It is further recommended that while using a systems approach in the development of courses and curriculum, the program should assure that the student's central focus will be on practical library problems. Therefore, the program should be located in the library school rather than in other departments or schools of the university. The study indicated that while only a small percentage of the administrator's time might be spent in performing specialized library functions, the respondents and the interviewees felt that a large proportion of the knowledge required to perform library administrative and management functions is of a specialized library nature, and that, therefore, examples and practices used in administration courses at the post-master's level should be within the area of librarianship.

It was pointed out by some of the respondents that as education at the master's level seemed to be devoting more and more attention to theory and less attention to application, it would be especially important to have post-master's education try to close the widening gap between the knowledge taught in the MLS program and the problems actually faced by librarians on the job.

The interviewees stated quite positively that they would not let employees take time to attend classes unless they were specifically related to their present job situation. The respondents likewise stated they would not be motivated to take courses unless these related to their work. Several

of the respondents made the further suggestion that the professors seek out administrators to enable them to develop simulation exercises or case studies that were grounded in real library situations. The urgent necessity of formal course work related to the practical is emphasized by Mosher (Ref. 16:108-109). He sees as a serious threat the fact that there seems to be an ever-widening gap in professional education between the professors -- "the men who search for truth" -- and the administrators, who decide and do. Further, he postulates that as scholars proceed more deeply into their subject matter, the problem of converting their findings and their wisdom into social policy becomes even greater and more important. If the present gap continues and increases in this area, he foresees that specialism may lead to "trained incapacity" for social decision.

Since the research team believes that there would indeed be many gains if professors in graduate schools had closer working relationships with the practicing administrators of libraries, one of the courses being developed in Phase II of the program will be entirely taught by simulation techniques and will be based on actual practical data and problems obtained from a number of Federal libraries. Never has a closer relationship been more needed than at the present, yet some library school faculty members seem to stand somewhat apart and aloof from their natural allies -- the library administrators. It is recommended that this trend be reversed and that research be undertaken to determine ways and means by which closer working relationships may be established.

The Range of Instructional Strategies. The respondents were quite emphatic in their insistence that instruction should not be limited to the lecture method. They urged a multi-media approach including the use of new technology in the teaching of all courses offered at the post-master's level.

Faegre (Ref. 4) has developed a helpful instrument for the evaluation of proposed media systems in higher education. This process consists of five steps: (1) preparing behavioral objectives (as indicated above); (2) describing the types of learning which can be inferred from the specified behaviors and then selecting one or more types from the learning categories; (3) with these behaviors and learning types in mind, describing one or more instructional strategies which could be used to accomplish the objectives; (4) identifying various media alternatives which best fit the objectives and instructional strategy description; and (5) selecting the one medium which provides an optimum fit for the characteristics disclosed in steps 1, 2, and 3; and from the alternative generated in step 4. This procedure would result in the preparation of a media specification for a particular unit of instruction involving one medium, or in some cases a mix of media. A very similar process is described

by Briggs (Ref. 1) and illustrations of the analysis procedure for a group of behavioral objectives from a course are described in some detail.

In the development of courses at the post-master's level, it is recommended that a range of instructional strategies be used including the use of the newer media now available when they best fit the objectives and instructional strategy description for a particular element within a course.

Motivational Factors. It was apparent from the free open-end responses of the respondents, as well as from the fact that only 15 per cent of the respondents had taken as much as six credit hours or more since receiving their MLS degree (average of 14 years since the graduate degree in library science has been received), that motivational factors will have to be taken into account if a substantial number of librarians are to be reached by post-MLS training.

The Graduate School of the Department of Agriculture (Ref. 5), Hilgard (Ref. 10), Crawford (Ref. 3), and Jerkedal (Ref. 11), are but four of those writing in the area of continuing education who stress the importance of motivational factors in relation to professional development. These authors feel that it is of prime importance that the student be adequately motivated in order for changes (in knowledge, comprehension, skill, attitude, values) to occur. Since enrollment at the post-MLS level is voluntary and not prescribed by the profession as mandatory for practice or promotion, the student must be motivated to attend. Relative to the participation of librarians in continuing education, a recent study of librarians (Ref. Stone. 19) discovered that librarians were most likely to be motivated to engage in formal continuing education when the content of the experience offered was directly related to the job situation and to on-the-job activities being performed by the librarians. This finding is in keeping with the research of Herzberg and his associates (Refs. 8 & 9) who have found that factors that motivate the individual in the work situation are related to the work itself, achievement, and opportunity for personal growth. Jerkedal (Ref. 11) in his study of top management education concluded that the two most important factors which tended to cause changed behavioral patterns on the part of participants in advanced management educational programs are: (1) the degree of motivation that impelled participants to take the training, and (2) the determination on the part of the organization which sends the individual to take courses to impress upon every participant why the course content would meet his training needs -- "in other words, motivate him before the training starts."

Once the individual has enrolled in the course, motivation must be kept sufficiently high for learning to take place. Whether original motives can last or can be transposed into ones strong enough to bring about the learning set for the students is in large part dependent upon the instructional skills and the conscious effort of the teacher.

The Staff Handbook of the Graduate School of the U.S. Department of Agriculture states that:

> The problem of motivation becomes one of organizing activities in such a way that the student will begin to derive satisfaction from new ways of behaving before old patterns are relinquished. Intellectual mastery is rewarding when the student recognizes that learning one thing allows him to go to something which before was out of reach. Thus the cumulative power of learning is eventful to the student himself. (Ref. 5)

These conditions make it imperative that the student perceive the proposed learning task as personally important or significant to his job or career. It puts on the teacher the responsibility for helping the student find materials that are relevant to his concerns in relation to his job. A student unwilling to attempt certain kinds of changes may fear failure or see changes as an attack on his attitudinal patterns which he values. Group forces, if skillfully used, can provide a supportive atmosphere and can exert great influence on attitudes and values. McKeachie suggests that the use of role playing is one of the most effective avenues to bring about attitudinal change and to bring down barriers built up against involvement in class activities. (Ref. 15)

It is recommended,therefore, that library schools give special attention to those factors which up to the present time have been found important in motivating participation in formal course work at the post-MLS level, especially high quality course work relevant to the librarian's job situation, as well as certain personalized criteria such as the need for partial financial support, leave of absence concerns, accessibility, timing, and the desirability of flexible scheduling. It is also recommended that the library administrator be helped to see that he plays an important part by his encouragement or discouragement in whether or not the individual is motivated to engage in further formal education following the MLS degree.

Popularity of the Workshop Format. The most popular format chosen for course content was the "workshop" category (70.1 per cent of the respondents as compared to 63.0 per cent for the categories "course now" and "course later" combined). The respondents and the interviewees

recommended that library schools should offer workshops regardless of what type of full-length courses at the post-master's level might be developed. One major advantage of the workshop, seen by both respondents and interviewees, is the ease of financing it. The interviewees stated that if the content covered related to the job situation, both financing and leave would be possible. Of special interest is the fact that the courses receiving the highest rankings under the workshop format showed a different pattern from those in the "course now" or "course later" categories. These differences are dealt with in the next section on "Content of the Education."

The Content of the Education

A coherent picture of a post-master's program for middle and upper-level library personnel has begun to emerge from this study. Based on the research findings, continuing education at the post-master's level is visualized as consisting of three main elements that interweave to form the whole fabric of content. These elements respond directly to the greatest needs of middle and upper level library personnel as revealed by the respondents and interviewees, namely, courses in the areas of (1) administration and management; (2) automation; and (3) specialized library subjects. Depending on such variables as the background and needs of librarians in a given geographical area, on present content of a school's MLS program, on available qualified faculty, on resources to develop programs. and on results from other surveys, a varying combination of courses might be undertaken.

Each of these elements is presented in the following paragraphs by listing suggested constituent courses and presenting a brief rationale of why certain courses should be given high priority consideration in a post-master's program. An overview of suggested program content is displayed in Table 52.

High Priority Courses in the Area of Administration and Management. The overwhelming opinion of the respondents in answering the questionnaire seemed to be "Courses in administration should be a must for all in any post-master's program." After the courses in automation, they far outranked any course area in the questionnaire chosen by the respondents. The interviewees ranked the administration courses first in importance and considered them even more important for inclusion in a post-MLS program than did the respondents. The higher ranking given some of these courses by the interviewees is so pronounced and backed up by such convincing data obtained from the interview proper that it would seem such courses should be seriously considered by educators for inclusion in a post-MLS program, at least as electives, even

TABLE 52

LIST OF HIGHEST PRIORITY COURSES[1] FOR POST-MASTER'S EDUCATION OF MIDDLE AND UPPER-LEVEL LIBRARY PERSONNEL BASED ON RANKINGS BY RESPONDENTS AND INTERVIEWEES: 1969

Major Elements	Number of Course in Question-naire	Educational Content (Courses)
Library Administration	9.	Human Relations in Library Administration
	5.	Administrative Policies and Practices
	8.	General Management
	6.	Communication Theory and Processes
	15.	Program Planning and Budgeting
	*10.	Innovation and Planned Change in Library Organizations
Automation	26.	Automation of Library Processes
	28.	Information Retrieval Systems
Specialized Library Courses	* 1.	Building and Evaluating Library Collections
	* 3.	Current Practices in Acquisition and Selection of Non-Book Materials
	*19.	Administration of the Special Federal Library
	*43.	Information Retrieval for Clientele
	*74.	Search Logic and Tactics
	*93.	Systems Analysis for Library and Information Center Operations

[1]For the purposes of this paper, a course is assumed to consist of three class hours and six to nine hours of non-class preparation per week for about fifteen or sixteen working weeks. Four or five of these courses would constitute a full term.

* Suggested as electives.

though the rankings of the questionnaire respondents standing alone might not seem to warrant such inclusion. These differences in rankings between the respondents and the interviewees were due chiefly to the fact that the perspective of the top-level administrators in relation to a specific job is different from that of the librarians at the middle and upper level. The administrator tends to look at a job as part of the whole mission of the library system and see more clearly how the job relates to the overall goals of the library. These distinctions were particularly noticeable in the case of six courses: "Communication Theory and Processes", "Policy Formation and Decision Making", "Innovation and Planned Change in Library Organizations", "Personnel Problems under the Impact of Technological Change", "Theories of Organization and Management", and "Public Administration".

Taking all factors into consideration, the courses in the area of administration and management that would seem to have the highest priority for inclusion are the following: "Human Relations in Library Administration", "Administrative Policies and Practices", "General Management", "Program Planning and Budgeting", "Communication Theory and Processes", and "Innovation and Planned Change in Library Organizations".[1]

(l) HUMAN RELATIONS IN LIBRARY ADMINISTRATION: Exploration of the interpersonal and inter-group relationships in a library organizational setting; employee motivation; the managerial environment. (Course #9, Part II of the questionnaire)

With the interviewees this course ranked first of all the 78 courses in the questionnaire, and was, as a matter of fact, the only course that none of the top-level library administrators considered "not really needed" at the post-master's level. Taking all of the 365 respondents together in the category "course now" or "course later" it ranked sixth, and for those respondents stating a definite interest in enrolling in a post-master's program, it ranked fourth. In addition, the open-end free responses of both the respondents and the interviewees showed that current environmental conditions in libraries demonstrate the great need for this course.

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[1]In addition to these six courses, other courses that contain the chief competencies that the interviewees indicated should be covered at the post-master's level are presented in Appendix Table XXIX entitled "Administrative Skills and Competencies in which Librarians Most Urgently Need Added Training at the Post-MLS Level According to the Free Response Answers of Interviewees: 1969".

The skills and competencies most often mentioned in the free response conversations with interviewees as most needed in this course were: skills in interpersonal and intergroup relationships; motivational factors in organizational behavior; administrative ability to develop staff to their full potential, including accountability for employee development; and recent social and psychological research findings regarding leadership roles.

If the course "Personnel Problems under the Impact of Technology" is not to be offered in the program, it was the recommendation of the interviewees that its main insights be included in the human relations course with special emphasis on the importance of maintaining a balance between the personnel subsystem and the technological subsystem in the library.

Because of the importance attached to the course "Human Relations in Library Administration," it has been selected for development in Phase II of this project, and, following the suggestion of the interviewees, a social psychologist, also familiar with library administration, has been engaged to develop an interdisciplinary course in cooperation with the research team and other specialists, including an educational technologist.

(2) ADMINISTRATIVE POLICIES AND PRACTICES: Emphasis on library organization and its operational problems relevant to top levels of administration. (Course #5 in Part II of the questionnaire.)

Competencies mentioned by the interviewees included practical experience in policy formation and the recognition that this is not something that can be delegated to others; skill in executing policies agreed upon; an understanding of the ethics of policy and the political and social forces which affect it. They also suggested that the course include a study of the nature, reliability, and accessibility of information upon which administrative decisions are based and the impact on decision making that the computer technology may have in the future. Finally, the interviewees emphasized the importance of the top administrators recognizing the need for a systems approach in administering the library with emphasis on the various subsystems in the library and the interdependent, interacting character of these subsystems.

It should also be noted that the second highest ranking area of deficiencies in previous training which are now important in the respondents' jobs was in the area of administrative skills.

(3) GENERAL MANAGEMENT: Developing the skills of the middle-level library manager by focusing on the basic processes of

management. (Course #8 in Part II of the questionnaire.)

This course, focusing on the functions of the management process, was ranked third in importance by the interviewees and eighth by the respondents. Its importance was further emphasized by the number of competencies the interviewees mentioned that they hoped would constitute the terminal behavior patterns of those who might take the course. Summarized these are: (1) skill in directing, which the interviewees considered the most universally needed competency among librarians; (2) development of a fuller understanding of the management process; (3) necessity of realizing that the library is part of a larger system and finding ways of relating to that system; (4) ability to understand staffing requirements; (5) ability to organize a department so it relates to all the other functions of the library; and (6) ability to use analytical techniques.

The interviewees emphasized the point that this course should be taken by returning librarians even though they may have had an introductory course in principles of management or administration at the MLS level. At the MLS level, they said that the course emphasized knowledge and theory, but after a few years experience the returning librarian needed to take a course in which the emphasis was on skill in application and in solving the type of problems that he was now facing. As a matter of fact it was suggested that the introductory course now offered in most accredited library schools should be a prerequisite for admission to this course, and if the enrollee had not had it, he should be required to at least audit it before admission to this course at the post-master's level, which they saw as being taught quite differently than the MLS course in management. It should also be noted here that the job inventory, as filled out by the respondents, gave important clues to the weight that various segments of a course on management processes should have. For example, by far the top-ranking job activity in relation to the dimension of time and the dimension of importance was directing, and by far the highest ranking single job activity, both for time and importance, was "Directly supervise and guide subordinates".

(4) COMMUNICATION THEORY AND PROCESSES: The communication processes: media techniques employed by the library manager; public relations. (Course #6 in Part II of the questionnaire.)

The course "Communication Theory and Processes" was ranked considerably higher by top-level administrators than by the respondents (rank 6 compared to 17). However, the importance of communication skills in the minds of the interviewees was reflected not only in their ranking of this course, but also in repeated and forceful comments by

a majority of the interviewees that successful librarianship demands skill in communications perhaps to a greater degree than any other single skill -- but unfortunately the top-level administrators found these skills weak or lacking among librarians.

The importance of the many facets of communication for the librarian was reflected in the many related competencies listed by the interviewees, including: the ability to communicate the objectives of the library to those in other disciplines when required, the ability to present a position paper and/or alternative choices to a superior for him to use in decision making; ability to communicate to subordinates what is wanted and expected of them; the ability to listen and be communicated with. All data stressed the urgent need for improved efficiency in librarian-library user communication.

A further reason for including this course is that the questionnaire course area entitled "Representing" in the job inventory, covering such individual activities as public relations, publicity, report writing, editing, and the layout of publications, was the second largest area in which respondents said that they were leaving activities unperformed due to lack of training. Therefore these findings would seem to support the observations of the interviewees that good communication techniques are not widely taught by library schools, and graduates are left to their own devices in this crucial facet of communications. This condition was also noted by Hall (Ref. 6) in her survey of public library training.

(5) PROGRAM PLANNING AND BUDGETING: Library Applications. The processes and instruments of planning, programming, and budgetary functions of the library, with special emphasis on the current approaches of the Federal government in this function. (Course #15 of Part II of the questionnaire.)

"Program Planning and Budgeting" was one of the few courses which received the same rating from the respondents as from the interviewees (rank 8). Sixty per cent of the interviewees specifically mentioned competency in program planning and budgeting as one of the skills that should be developed at the post-master's level. They pointed out that because of a complete lack of such training, librarians are not able to prepare budgets in today's style.

Planning is an essential part of PPB, and in the job inventory it was found that planning ranked second among the processes of management desired by the respondents (directing, first) in terms of time and importance. Another indication of the need of such a course is that activities falling under the administrative function category of planning

constituted the third largest area of unable-to-be-performed activities due to lack of training. Also, as explained by Schultz:

> A crucial aim of the PPB system is the analysis of alternatives to find the most effective means of reaching basic program objectives, and to achieve these objectives for the least cost. The goal is to force Federal agencies to consider particular programs not as ends in themselves -- to be perpetuated without challenge or question -- but as means to objectives, subject to the competition of alternative and perhaps more effective or efficient programs. (Ref. 18:23)

In other words, the techniques of program budgeting also include the techniques of decision making, and decision making was one of the chief competencies that the interviewees (65 per cent of them) said should result from any post-master's program.

And finally, one does not need to search very far in library literature to find that budgets and financial matters are one of the chief areas in which libraries are having difficulties today, difficulties which call for all the expertise that a librarian can possible master. Based on a review of the educational background of the respondents, this is an area in which they have probably had the least training for their administrative tasks.

(6) INNOVATION AND PLANNED CHANGE IN LIBRARY ORGANIZATIONS: The social psychology and management implications of change. (Course #10 in Part II of the questionnaire.)

This is an example of a course which was rated very high by the interviewees (rank 7), but only rated a rank of 48 from the respondents. The difference in rating would in itself seem to imply that the librarian returning for a post-MLS program basically needs to be shown or taught (or persuaded) to recognize the necessity for continual adaptation to change as well as recognition that consensus for change and action is possible within any library system. The interviewees were aware of, and anxious to correct the lethargy toward change that has characterized the profession.

Much of the librarian's time, the interviewees believed, should go into activities planned at long range, that are undertaken to accomplish change in prevailing policies, to improve the processes and the procedures needed to adapt the organization to the new technology. The 50 per cent of the interviewees who mentioned this competency were quite emphatic in its importance. In their opinion, the library manager must be willing to

assume leadership in office politics to make changes within the library. They would cast the librarian in the role of the agent for change.

This role, according to Lippitt (Ref. 13 :119-126) includes: (1) diagnosing the problems of the system to be changed: (2) assessing its motivations and capacities to change; (3) appraising the agents' own motivations and resources; (4) guiding the selection of appropriate change objectives; (5) assuming an appropriate helping role: (6) establishing and maintaining the helping relationship; (7) understanding and guiding the change process; (8) choosing the techniques and modes of behavior appropriate at different stages of the process; (9) contributing to the development of basic skills and theories.

It is evident that to fulfill such a role, the librarian needs to engage in research and development activity and that he should be familiar with new research-based developments in related disciplines which would provide a broader perspective and would tend to make him more amenable to change.

A further rationale for offering this course is the fact that when asked what terminal behavior patterns the interviewees would expect the librarian to have gained by participation in a post-master's program, the answers were attitudinal rather than cognitive. Rather than listing any specific competencies desired, their comments centered around the librarian as an agent for improved performance and change. Their remarks relative to this were:

-- Unwillingness to accept the status quo; strong desire to innovate and experiment with new systems and services.

-- Residual benefits would generate needed changes.

-- Motivation toward new development.

-- Open-mindedness and flexibility; initiative to try new ideas.

-- Broader involvement in being willing to make policy recommendations.

<u>High Priority Courses in the Area of Automation.</u> Regardless of how the data from the questionnaire is analyzed, the chief demand for courses by the respondents was in the area of automation.

Probably the most significant difference in rankings between the interviewees and the questionnaire respondents was in the area of automation.

By the interviewees, "Automation of Library Processes" was ranked third (as compared to first by the respondents), "Information Processing on Computers" twelfth (as compared to third) and "Information Retrieval Systems" nineteenth (as compared to second). Two of the inverviewees did not think automation should be offered at all at the post-master's level, but that it should be required at the MLS level. The interviewees on the whole emphasized the necessity of the librarians being able to communicate their needs and the library's objectives effectively to the computer and systems men.

They seemed to be in agreement with Andrews of Harvard who felt the critical task thus becomes "training the managers to ask and insist on answers to those questions that are of importance to them, not to the programmer or systems man." (Ref. 20)

A few factors showing the relationship of automation to the demand for courses by the respondents bear repetition:

(1) The automation of some library functions does not constitute a prediction as to that library's employees wanting to study automation.

(2) Involvement in automation at the supervisory level seems to bear the greatest relation to desire for such study.

(3) Of the 9 librarians (2.5 per cent) in the study who said ability in automation gained through on-the-job experience was their greatest competence, 8 wanted to take course work in this area.

(4) The 16.2 per cent of the respondents who listed automation as one of their greatest weaknesses stated their little competence was due to a lack of training or knowledge.

(5) The activities most frequently listed as not engaged in because of lack of previous training were in automation. Of the 23 respondents listing automation as an unable-to-be-performed activity, 20 were administrators.

The reason that so many showed a desire to take courses in automation, even though they were not presently engaged in it, seemed to indicate that they felt automation would be needed in their jobs in the near future. Librarians have come to an uneasy, but positive feeling that automation -- chiefly in the form of computer systems -- has a part to play in their activities, but they are uncertain about what this part is and exactly how they should be prepared for it, and how it should be introduced to their libraries.

It is recommended, therefore, that two courses in this area be offered as core courses in the post-master's program in order to help the individual bridge this information gap which seems to present a real threat to him in many instances. From the findings in the study the two courses recommended are: (1) "Automation of Library Processes"; and (2) "Information Retrieval Systems".

(1) AUTOMATION OF LIBRARY PROCESSES: Application of computer technology to library processes. (Course #26 in Part II of the questionnaire.)

This course was ranked first by all respondents and third by the interviewees. Twenty-five per cent of the interviewees did not include it in their "Should Have" group of courses at the post-master's level and 10 per cent thought it was not needed at all at that level. The interviewees electing the course were agreed on the relevant competencies that should be taught. Summarized they are:

-- Certain basic concepts relative to the computer in society today and its use in a library system.

-- An understanding by librarians of their role in automation.

-- The mastery of terminology in the field of automation.

-- Awareness of the potential applications of automation in libraries.

-- Need to put ADP operations in perspective with regard to the "Economics of Information".

Finally it should be noted that the interviewees thought that now all students should be exposed to a general introductory course in automation at the master's level. One coming back for work at the post-master's level should be required to have that course or the equivalent at the MLS level as a prerequisite for admission to the program so the class might be able to start with a similar entry level for all the students.

(2) INFORMATION RETRIEVAL SYSTEMS: Structure and operation of information systems, including question analysis, search strategy, thesaurus construction. (Course #28 in Part II of the questionnaire.)

The respondents uniformly ranked this course as their second choice, regardless of how the categories were formulated, except in one instance where it was ranked first ("Course Later"). Although the interviewees

gave it a much lower rating (rank 21), their free response answers during the interview indicate that they did not completely eliminate this as a possible course at the post-MLS level.

On the basis of the free response statements of the respondents and the interviewees, particular course attention should be given to information flow and modes of retrieval, selective dissemination, current awareness programs, retrospective retrieval, and evaluation of retrieval effectiveness based on knowledge of user requirements.

The master's level course,"Automation of Library Processes", would be a prerequisite for admission to this course.

High Priority Courses in Area of Specialized Library Functions. As the objective of this study was to determine post-master's educational needs for middle and upper-level library personnel, it is not surprising to find that the preponderance of respondent demand falls within the areas of administration and automation or that in their free response answers the interviewees mentioned fewer specialized functions than administrative or management functions, thus indicating that they thought management competency more important at this level than technical skills. It was found, as would be expected, that as the respondents moved up in grade the time devoted to administrative functions increased and that devoted to specialized library functions decreased. However, the findings also brought out the important concept that although the administrator's tasks were largely managerial in nature rather than of a specialized library nature, the knowledge required to perform these managerial functions effectively was technically "specialized" in its nature, and that administrators and supervisors needed to have at least a working knowledge of the specialities that constituted the operations they directed. The interviewees did not, however, think it necessary to take a full course in order to attain the requisite knowledge for effective supervisory performance. This same feeling was echoed by the respondents indicating that specialized library functions were more desired in the workshop format than in the course format.

However, the respondents did specify that the following curriculum conditions would be important to them in a post-master's program: freedom of selection from a variety of courses, and a balance between specialized library subjects and other courses offered in the program.

Competencies mentioned most often by the interviewees that would probably best fall within the scope of "Specialized Library Functions" were: (1) greater expertise in providing reference service to library clientele; (2) greater understanding of the psychology of the user;

(3) an innovative approach to little used non-conventional library reference tools; (4) development of a sense of social responsibility to be reflected in library service; (5) an experimental approach to traditional practices in the area of technical services; (6) efficiency and ease in using research methods to study library problems, with special emphasis on the need for statistical know-how.

From these suggestions, a number of courses emerge as possible electives in this area. These suggested electives are not discussed in detail as some version of most of them is already offered in library school programs, and their content is familiar to library educators. However, it should be stressed that it is important in offering such electives to weigh certain other curriculum-related conditions that the respondents said were necessary if they were to return to study at the post-master's level. Worth noting among these conditions are: the provision of new content rather than old MLS material: job relevant content that will give them an opportunity for problem solving in a university setting; and an opportunity to acquire skills lacking in their previous training.

The courses in specialized aspects of library service which have the greatest demand and which are recommended electives are the following:

(1) BUILDING AND EVALUATING LIBRARY COLLECTIONS: Criteria for evaluating and selecting library materials, devising and maintaining an acquisition system.
(Course #1 in Part II of the questionnaire.)

Rank of 38 by respondents; 8 by interviewees.

The interviewees in particular seemed aware of the many new approaches to acquisitions activity which could be of value in facing up to the problems brought about by the proliferation of publication in all subject areas which has made it virtually impossible for any type of library to select title-by-title from current in-prints. Basically, the problem they voiced was identification of what is needed by their users and finding the most expeditious and economical ways of getting these materials on the shelves.

(2) CURRENT PRACTICES IN ACQUISTION AND SELECTION OF NON-BOOK MATERIALS: Including an understanding of the new technology which governs the selection and use of video tapes, dial access sets, audio-visual materials, etc., in libraries. (Course #3 in Part II of the questionnaire.)

Rank of 17 by respondents; 12 by interviewees.

The field of media is a large one, encompassing audiovisual education, books, special devices such as reading equipment, television, computers, photographic equipment and a wide array of other materials. Media programs can range from almost no emphasis on the machinery to almost total emphasis, stressing the 8 and 16 mm. motion picture production, video and audio tape production. As the range of media becomes more and more encompassing, programs are being centered in the library. Thus the librarian may no longer be solely concerned with selection, preparation, organization and retrieval of printed materials; his position is rapidly becoming that of media specialist, and he must prepare himself to meet that challenge. This is not a condition that is limited only to the educational scene, as the interviewees pointed out, but is rapidly coming to all types of libraries.

(3) ADMINISTRATION OF THE SPECIAL FEDERAL LIBRARY
(Course #13 in Part II of the questionnaire.)

Rank of 4 by the respondents; 38 by interviewees.

Although the course entitled "Administration of the Special Federal Library" received a high priority (rank 4) from only the questionnaire respondents (rank 38 with the interviewees), it would seem that the course offering would merit consideration at the post-MLS level for several reasons.

First, the field of administration is such that a concrete type of structure against which to project specific cases would seem to have value. The Federal libraries would seem to provide one such example. Also, in a course on administration, the hierarchy of the personnel plays an important role. The Federal libraries, with a well-defined common hierarchy of library personnel, are particularly well-suited to this purpose.

Since the respondents stressed the need of added knowledge in the area of automation, the study of Federal libraries, many of which are highly involved with automation, offers the opportunity to consider these aspects as part of the course. Further, since an individual Federal library is likely to be part of a larger library network, such a course would offer a unique opportunity to present insights into the relationships of an individual library to its concomitant system.

Because of Washington, D.C.'s favorable library environment and the offered cooperation of several Federal libraries, in Phase II of this study a model course on Federal libraries will be developed which will be taught through the techniques of simulation. The verbal model to be

developed (as opposed to a mathematical model) will consist of a description of a hypothetical library, giving a framework of facts, policies, procedures and other information needed to make decisions about the library. A series of interrelated problems, each of which requires one or more administrative decisions, will be developed for use in the course. The model will describe a typical Federal library, and the problems will be typical of upper management and administrative problems in a Federal library.

(4) INFORMATION RETRIEVAL FOR CLIENTELE: Forecasting and analyzing clientele needs; the psychology of the user; initiating user services; development of orientation programs for users; instructing users in reference methods and sources. (Course #43 in Part II of the questionnaire.)

Rank of 7 by respondents; 15 by interviewees.

Twenty per cent of the interviewees spoke forcefully of the great need for a course covering these areas of clientele service. The chief competence emphasized as needed was greater skill in understanding the psychology of the user, particularly in negotiating the reference question.

(5) SEARCH LOGIC AND TACTICS: (Course #74 in Part II of the questionnaire.)

Rank of 14 by respondents; 12 by interviewees.

In general the interviewees felt a post-master's program should provide for added expertise in the area of search logic and tactics. One competency they mentioned particularly was the development of an innovative approach to little used and non-conventional library reference tools.

(6) SYSTEMS ANALYSIS AND DESIGN FOR LIBRARY AND INFORMATION CENTER OPERATIONS. (Course #93 in Part II of the questionnaire.)

Rank of 12 by respondents; 15 by interviewees.

Whether or not there is an automated system within a library, the interviewees felt the librarian should have sufficient familiarity with the concepts and phases of systems study -- analysis, evaluation, and design -- to be able to work cooperatively with professional systems designers and analysts toward increasing the efficiency and productivity of the library. The word emphasized was "cooperatively", for the

interviewees seemed in agreement that librarians of a given library have different roles to play in a library systems study which represents a demanding total library effort involving the entire library staff. The interviewees suggested that special emphasis be given in the course to (1) the ability of the librarian to relate the library's objectives to the professional systems designer; (2) the librarians' possessing enough know-how within himself to make the final decisions about redesign and not turn these over to an analyst brought in from outside; (3) the librarian's being able to balance the human needs with the technological needs of the library in order to obtain a balance in the whole library system. Some interviewees saw in systems design and analysis the potential for eliminating much of the avoidable detail work that many of the respondents complained so much about in the study.

To sum up: these elective courses in specialized library subjects should be clearly associated with practical applications. The particular combination of electives offered would depend on the needs of the students enrolling as well as on the available faculty and teaching resources of the library school. It should also be pointed out that in developing a program for a particular school a library educator might like to select, to meet special needs, electives other than those suggested in this section. A final note: within each of these elective courses the instruction should be geared as much as possible to the job-related interests and needs of the individual student.

High Priority Courses Suggested for the Workshop Format. The study revealed that the most popular topics chosen for the "workshop" format showed a considerably different pattern from those in the course categories ("course now and/or course later"). The most obvious difference was that there were more non-administrative areas receiving high rankings.

The subjects receiving the highest ranking from "workshops" were: (1) "Automation of Library Processes", (2) "Building and Evaluating Library Collections", (3) "Resources and Services of the Federal Library Complex", (4) "Current Practices in Acquisition and Selection of Non-Book Materials", (5) "Non-Conventional Library Reference Tools", (6) "Circulation Systems", (7) "Human Relations in Library Administration", (8) "Administration of the Special Federal Library", (8) "Information Retrieval for Clientele", (8) "General Management", and (8) "Current Issues in Librarianship and Information Science".

Detailed analysis of the workshop listings by many different types of breakdowns of the respondents (grade, age, type of position, etc.) led to the conclusion that in some subject areas, such as administration and automation, courses were too large in scope to be covered in the

short period of time available in a workshop, thus preventing maximum gains from the time invested. The respondents felt this was particularly true in subject areas in which they had no previous training or experience.

On the other hand, the reason so many non-administrative courses were high on the list seemed to be the fact that respondents had had training in these areas at the MLS level, and merely wished now to use the workshop as a medium of bringing themselves up to date.

The following statement sums up the probable relationship between a library school's post-master's program and its workshop activity: to keep abreast of rapidly changing developments in technology that make automation a viable tool in the library, as well as to keep up with today's growth and changes in library school and related disciplines, takes more than exposure to courses at one point of time, as in a post-master's program. It takes continuing education of a formal character which is "systematic, questioning, interpretative, open ended and demanding." (Ref. Harlow, 7 :6) Therefore, it is concluded that the library schools have an obligation, even as pointed out by the respondents and the interviewees, to consistently and continually offer workshops and institutes in the areas of administration, management, and automation, regardless of how effectively and comprehensively the post-master's program of one year's duration may be developed.

Conclusion.

In the preceding section the research findings from this study have been used to summarize the educational needs of middle and upper-level library personnel and to make suggestions relative to the form and content of formal education at the post-master's level. Many implications can be drawn from this data to help understand and guide the design of programs at the post-master's level, but in and of itself it does not supply sufficient data to formulate the details of such a program at this time. It does, however, provide an information base for developing specifications for courses responsive to knowledge and skill requirements, as identified in Phase I of the study, especially through the analysis of the job inventory findings and the analysis of needed competencies as suggested by the interviewees. In fact, in Phase II of this research project, three of the high priority courses have been selected for development and packaging using a systems approach to educational planning. They are: "Human Relations in Library Administration", "Administration of the Special Federal Library", and "Application of Computer Technology to Library Processes".

As the study was not designed to produce data for building a doctoral program for practicing librarians, there can be no positive suggestions

for a program at this level. What indications did emerge showed that the demand for such a program is not high (16.2 per cent of the respondents), and that 95 per cent of these stated that certain conditions (chiefly financial) would have to be met in order for them to enroll. As the real motivation for those who are willing to participate in a doctoral level program is not clearly understood, it may turn out that the proposed post-MLS program may provide the training these librarians are seeking. However, if it develops that the proposed post-MLS program cannot satisfy the training requirements for practicing librarians, a doctoral program created around their needs might well be contemplated.

RECOMMENDATIONS FOR FURTHER STUDY AND RESEARCH

There are many suggestions for further study and research that flow from this study. The ones that seem, in the minds of the authors, to be the most relevant and to have emanated most directly from these findings are suggested here.

(1) Although it is postulated that the educational needs of middle and upper-level Federal library personnel are similar to those of other types of librarians, research of a parallel nature based on other types of librarians, especially academic, public and non-government special librarians (the current School Library Manpower Project is already providing similar data for school librarians) is needed for verification of this hypothesis.

(2) Paralleling advances that are being made in other professions, such as medicine, engineering, and education, there is need for research on the practicality and effectiveness of extending educational opportunities beyond the walls of the professional school. As one respondent phrased it, "Use modern technology to take library school courses to where people are who need them and cannot travel." In order to meet the personal criteria that respondents said were necessary for them to participate in continuing education programs, namely: excellence of content, accessibility, flexibility, and continuity of offerings; it is recommended that research be undertaken to determine by what means formal library school courses can most effectively be taken to the individual or to groups in other locations. Ways of development suggested by the respondents were: (a) taking the campus to classrooms in libraries by the development of courses using the newest in technology; (b) taking the campus to the library through the development of individualized learning centers which would be available in libraries in every state, (c) taking the campus directly to the individual in his home by the use of the new technology, (d) correspondence courses. In essence, what is needed is research and cooperative effort which would lead

to the development of a conceptual and practical blueprint for the provision of equal coordinated education opportunities throug out the countcy for all those librarians who need, want, and will continue their lifetime of post-graduate learning.

(3) As it was found that a majority (57 per cent) of the respondents had not been motivated to participate in any form of formal course work (including workshops and short-term courses) since receiving their graduate degree, it is recommended that a comprehensive study be undertaken which would seek to establish the most important factors related to the individual librarian's motivation toward participating in continuing education activities. This would supplement the pilot study already completed in this area (Stone, Ref.19) and should be based on a much broader population base. Such a study should seek answers to such questions as the following: (a) what motivates librarians toward or deters them from participating in continuing education programs? (b) what are the necessary personal criteria that must be met in planning for continuing education if there is to be wide participation by all librarians? (c) what is the degree and kind of support that administrators need to give their employees regarding professional development activities? (d) how can the library school instill in the student the need for a lifelong program of professional growth? (e) is there any relation between the amount of continuing education that librarians participate in and the fact that the profession itself has no standard recognition for advanced training? (f) to what extent is continuing education the responsibility of the whole profession?

(4) Inasmuch as the respondents indicated that workshops were the form of continuing education in which the highest percentage of librarians were likely to participate at the post-master's level, it is recommended that there is a need for a more comprehensive approach to educational planning for short-term institutes and workshops which would result in the raising of standards for such projects. The need for such a comprehensive approach to workshop planning and management has become increasingly necessary as the number of proposals submitted for Federal funds for this form of continuing education increases, as greater allocations of money and personnel are being invested in workshops, as the range of subject areas continues to widen, and as the number of different agencies proposing workshops increases. It is further suggested that a comprehensive model be developed for planning, managing, and evaluating short-term institutes and workshops. Such a model should apply to every important phase of a project from its inception to its termination. Such a model should include such elements as the following: statement of criteria for proposal development of needs,

priority considerations, staff and management, program activities and curriculum, facilities and evaluation. The model should be in a form which could be used by (a) those who write proposals, (b) those who operate projects, (c) those who evaluate proposals, and (d) those who evaluate the outcome of the programs. Such a model should result in the improvement of programs by providing specific criteria from the conception to the culmination of a project and by providing feedback data throughout.

(5) This study has shown that, in the eyes of the respondents, a great deal of professional time was spent on jobs that the librarians considered to be of a clerical nature. In fact the librarians urged help from the library schools to correct this situation. The effects of this constant pressure for upgrading are pervasive, and correction will have to come from several sources. As the libraries make use of more paraprofessionals as a result of better utilization of manpower and economic pressure, it then will become increasingly necessary to provide not only adequate training for such supportive staff who will be performing essential work which lies below the point of full professional caliber, but it will also become necessary for the library school to provide the professional librarian with greater know-how in efficient personnel management.

It is recommended that several research studies be undertaken to determine more precisely the specific skills and knowledge needed by technicians in various types of libraries, the areas of training appropriate to the curricula of schools undertaking to prepare library technicians, the problem of absorbing this type of personnel into the library system, the evaluation of their contribution, and the skills and techniques needed by the professional supervisor to utilize supportive staff more effectively.

(6) In the free response answers of both the respondents and the interviewees, there were frequent suggestions that user studies should receive more attention from the profession. These suggestions took two forms:

First: the largest number (13) of single suggestions regarded the need for further inquiry related to user studies. The respondents felt that querying actual users would point out shortcomings of practice that had become blindspots to the librarians as they worked. Further, they stated that without the users' psychological points of view the data for developing continuing education programs tends to be one-sided. "Librarians," they said, "should meet users' needs rather than just offer services. Librarians must know what these needs are in order to meet them with maximum effectiveness."

Second: it is recommended that a study paralleling the one on public library use conducted for the National Advisory Commission on Libraries, be made of other types of libraries in order to explore the use and non-use, and the adequacy of other types of libraires, such as academic, professional, Federal and other special libraries, from the point of view of the user.

The transition from research to practice is always a slow and measured one rather than a single leap. It is a slow process from investigation to development, to production, and finally to evaluation. Sometimes it may seem that the evaluation takes so long that it can by bypassed, but as McConnell (Ref. 14) has warned, "without evaluation, development may easily become quackery." To date, slow or cumbersome as it may seem, the authors still believe firmly that a progression from investigation and research through development and implementation and on to evaluation is the most promising way to assure that improvement and progress will be made in the formal continuing education of professional librarians.

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This bibliography is designed to help those interested in building a post-master's curriculum. The subdivisions mirror the conclusions and recommendations of the study concerning the form and content of program development. Thus, the interdisciplinary approach recommended is reflected in the sections entitled: "Continuing Education: Other Professions" and "Curriculum Development: Other Professions". The importance of the systems perspective in designing courses and curricula is brought out in "Educational Planning: Multi-Media and Systems Approaches". The necessity for a practical approach, if learning is to be maximized, is documented in "Learning: A Process of Change". As there are signs throughout the study of a certain apathy on the part of the individual librarian and the profession as a whole toward continuing education, which indicate the importance of taking motivational factors into consideration in program building, "Continuing Education: Motivational Factors", which is interdisciplinary in content, is included.

Turning to the content of the program, the sections "Continuing Education: Library and Information Science" and "Curriculum Development: Library and Information Science" seem necessary background for building a program based in the library school, as recommended in the study. As the greatest demand was for courses in automation and administration, there are sections, interdisciplinary in nature, emphasizing concepts in these areas. If the post-master's program is seen as an important way to upgrade the profession--as presented in this study--data on the manpower situation and the importance of training professional librarians toward the better utilization of the personnel already recruited becomes exceedingly important; thus, the section on manpower, which also deals with the problems of training the subprofessional to relieve the professional of avoidable detail work.

The respondents to the questionnaire placed great importance on personal characteristics for job success, as did the interviewees, but the findings indicate that different personality characteristics are important at different levels of the hierarchy. Until further research can be done, it would seem advantageous to study some of the personality and attitudinal patterns that have been found characteristic of librarians through previous studies. The interviewees, when asked what terminal behavior patterns they would expect librarians to gain by participating in a post-master's program, gave top priority rating to the librarian's becoming an "agent for change". This concept is highlighted in "Innovation and Change". Finally, there are sections dealing with research concepts and techniques: "Interviewing"; "Questionnaire Sources", which includes references to sample questionnaires of merit; "Job Inventories", philosophy and examples; plus a concluding section on research needs and the importance of research in any upgrading process within a profession.

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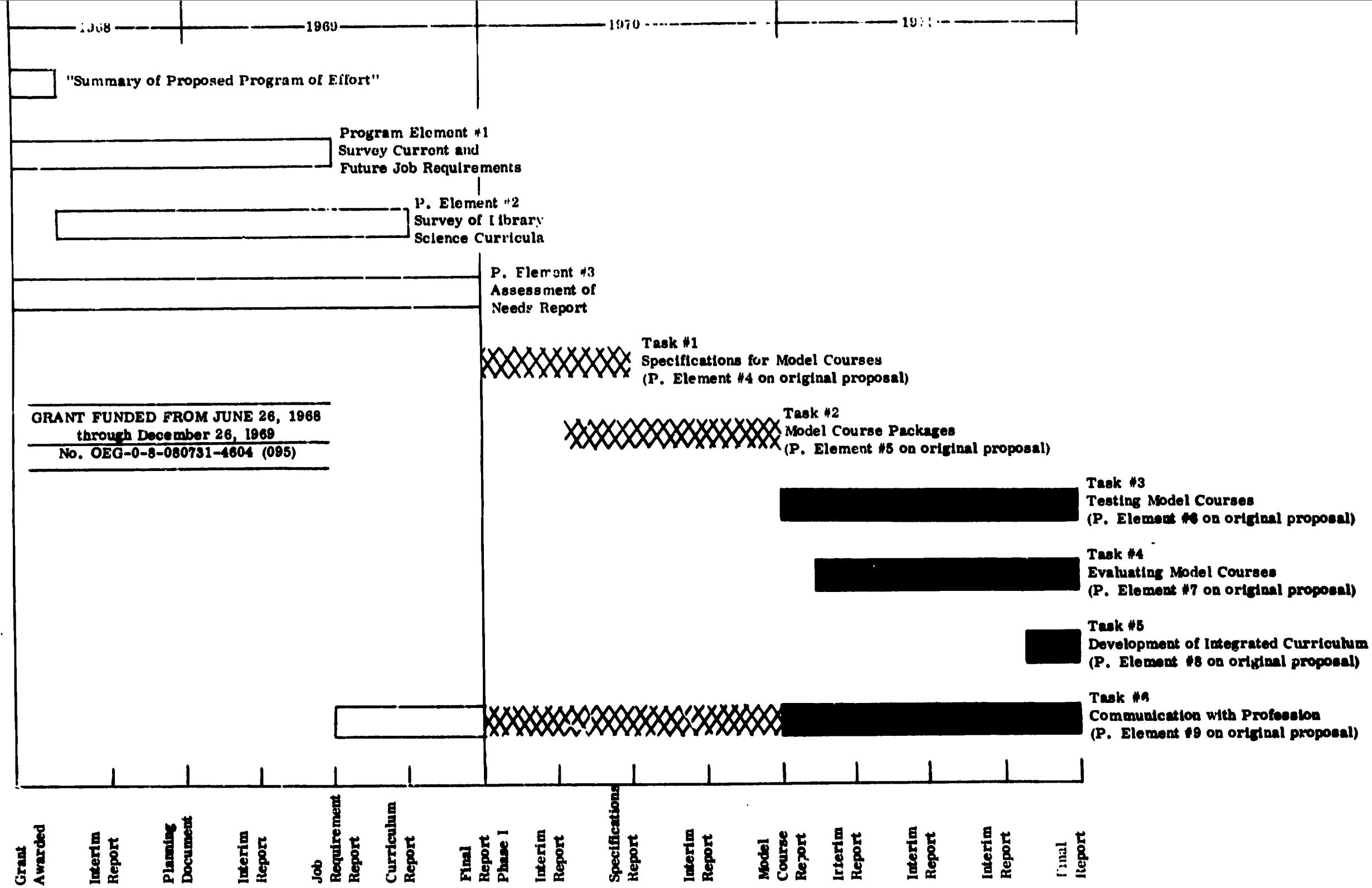
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APPENDICES



APPENDIX A
SCHEDULE OF PROGRAM ELEMENTS
POST-MASTER'S EDUCATION FOR MIDDLE AND UPPER-LEVEL PERSONNEL IN LIBRARY AND INFORMATION CENTERS
The Catholic University of America, The Department of Library Science

APPENDIX B:
QUESTIONNAIRE AND COVER
LETTER SENT TO PROFESSIONAL
FEDERAL LIBRARIANS

The Catholic University of

Washington, D. C. 20017

DEPARTMENT OF LIBRARY SCIENCE

Dear

"What can a library school do to help you in your career development?" This was one of the questions we asked a group of librarians in a recent study. The response of many was most tersely expressed by one: "Find out our real needs and concentrate on these. Don't just guess--ask us."

There is widespread interest today in improving and expanding the curricula of library schools. The question is: "Where to begin?" We agree that the first thing to do before offering more courses is to find out what you are actually doing in your job and what opportunities you would like in relation to your career development. This, we feel, is one significant base on which to build.

Therefore, we ask your help in answering the questions which follow. Those in the pre-test groups reported, that although it took from one to one hour and a half of their time, the experience was interesting and profitable to them. You have a unique contribution to make because the details about what you are doing and what continuing education programs you would be interested in can only come from you.

This research project, entitled "Post-M.L.S. Education for Middle and Upper-Level Personnel in Libraries and Information Centers," is being conducted by the Department of Library Science of The Catholic University of America, in cooperation with the Federal Library Committee. The over-all results will be shared with the library education community as a whole.

Individual responses to the questionnaire will be confidential. They will be available neither to your agency nor to the Federal Library Committee. Although no one will see your questionnaire except the few professional members of our research staff here on the campus, we have assigned you a number in order to determine returns and to send you a summary of the results. No individual will be identified in any way in the results reported. Please do not put your name on the questionnaire.

A self-addressed stamped envelope is enclosed for your convenience in returning the questionnaire. While we wish to give you a reasonable amount of time to complete the questionnaire, we have scheduled time to put this data through a computer. Thus, it would be greatly appreciated if you would mail your completed questionnaire to us within two weeks, that is by Monday,

Thank you very much for your assistance in what we feel is an important endeavor.

Cordially yours,

James J. Kortendick

(Rev.) James J. Kortendick, S.S., Ph.D.
Project Director and Head of the Department

Betty Stone

(Mrs.) Elizabeth W. Stone, Ph.D., Associate Project Director and Assistant to the Head of the Department

DEPARTMENT OF LIBRARY SCIENCE OF THE CATHOLIC UNIVERSITY OF AMERICA

A STUDY OF JOB DIMENSIONS AND EDUCATIONAL NEEDS: POST-MLS EDUCATION FOR MIDDLE AND UPPER-LEVEL PERSONNEL IN LIBRARIES AND INFORMATION CENTERS

PART I. EVALUATING JOB ACTIVITIES YOU PERFORM IN RELATION TO TIME AND IMPORTANCE

Directions for completion of Part I of the Questionnaire:

On the following pages you will find a number of statements about job elements and activities which might apply to your position. We ask you to rate each in terms of how time-consuming and important it is relative to other activities in your job at this time. To the left of each statement are two sets of symbols under the headings, "TIME" and "IMPORTANCE."

First, decide whether the statement applies to your position. Base this decision on what your position requires that you actually do, and not on your job description or position specification. If the statement does not apply, or is not true, leave the boxes under TIME and IMPORTANCE corresponding to that statement blank.

If the statement does apply to your position, indicate in "TIME" Column how time-consuming the activity is RELATIVE TO OTHER ACTIVITIES in your entire job, by checking the symbol which best describes the time factor to you. The symbols and their meanings follow:

TIME

● --One of the most time-consuming functions of the position

◑ --Consumes a substantial amount of time

○ --One of the least time-consuming functions of the position

Then, indicate how important you feel the activity is RELATIVE TO OTHER ACTIVITIES in terms of its contribution to effective performance in your entire job. Do this in the boxes under the IMPORTANCE Column, by checking the symbol which best describes the importance of this activity for your effective performance. The symbols and their meanings follow:

● --One of the most important parts of the position

IMPORTANCE ◑ --A substantial part of the position

○ --One of the least important parts of the position.

Please Note:

In Part I, please check only those position activities which you engage in directly and actually perform yourself. If the statement describes something that does not apply to, or is not true for your position because it describes something that is:

(1) delegated by you to a subordinate; or,
(2) is strictly the concern of a superior,

it is not a part of your position. Please leave the boxes that pertain to it blank.

You will find that the job activities are listed by two major categories:

A. SPECIALIZED LIBRARY FUNCTIONS--
If you are responsible for, or oversee, all the activities for a specialized library function, evaluate the first sentence(s) of that category relative to Time and Importance, indicating that you have over-all responsibility for that function. If a job element describes something which is strictly the concern of a superior or a subordinate, leave the boxes that pertain to it blank.

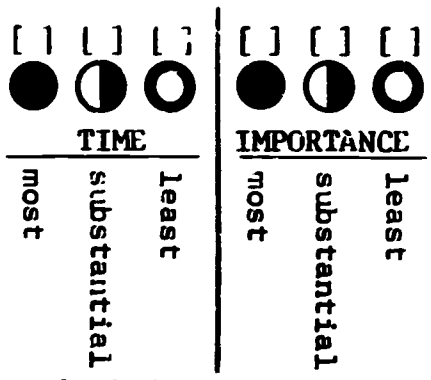
B. GENERAL ADMINISTRATIVE AND MANAGEMENT FUNCTIONS--
This category includes statements which may describe something that you do in your job in the areas of Planning, Organizing, Staffing, Directing, Coordinating, Controlling, Representing, and Housing. These questions apply to the administrative and management functions you now perform in your job as related to your area of responsibility, whether it be for the whole library, a department, a branch, or the specialized library functions which are assigned to you.

A. Performing Specialized Library Functions

In this Section A, you need only refer to and put a check in the boxes of the parts of the questionnaire that apply to your job. For example: if all of your job activities are in the areas of Bibliography and Indexing, you would need only to consider Items 23 through 28 and Items 68 through 76. Then you could skip to Section B, Page 4. To help you find your special areas more easily, the following list is provided:

--Abstracting, Items 1 through 7
--Acquisitions, Items 8 through 22
--Bibliography, Items 23 through 28
--Cataloging and Classification, Items 29 through 49
--Circulation, Items 50 through 59
--Clientele Services, Items 60 through 67
--Indexing, Items 68 through 76
--Literature Searching, Items 77 through 85
--Maintenance of Holdings, Items 86 through 95
--Reference, Items 96 through 102
--Research, Items 103 through 107
--Selection, Items 108 through 121
--Translation, Items 122 through 127

TIME ●	TIME ◑	TIME ○	IMPORTANCE ●	IMPORTANCE ◑	IMPORTANCE ○	JOB ACTIVITIES
						IN MY POSITION, IN THE AREA OF ABSTRACTING, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	1. Supervise the preparation of all abstracts and/or abstract services
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	2. Prepare descriptive abstracts
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	3. Write abstracts of content of materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	4. Evaluate material and state critique in an annotation
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	5. Make extracts of materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	6. Provide abstracting services through special announcement devices
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	7. Other:
						IN MY POSITION, IN THE AREA OF ACQUISITIONS, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	8. Am responsible for the over-all acquisitions program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	9. Establish policies for determining acquisitions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	10. Establish ordering and checking systems for books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	11. Establish ordering and checking systems for reports and/or documents
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	12. Establish ordering and checking systems for serials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	13. Procure books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	14. Procure non-book materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	15. Am responsible for acquisitions received by donation or exchange
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	16. Establish interlibrary loan system
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	17. Keep financial records and/or accounts for acquisitions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	18. Am accountable for keeping record of funds expended
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	19. Procure materials for the library's document depository
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	20. Appraise highly specialized and/or rare materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	21. Publish new-acquisitions bulletin
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	22. Other:
						IN MY POSITION, IN THE AREA OF BIBLIOGRAPHY, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	23. Am responsible for the over-all compilation of bibliographies
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	24. Maintain continuing bibliographies
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	25. Compile bibliographies in specialized subject areas
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	26. Produce demand bibliographies upon request
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	27. Prepare bibliographies using automated methods
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	28. Other:
						IN MY POSITION, IN THE AREA OF CATALOGING AND CLASSIFICATION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	29. Have over-all responsibility for the cataloging program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	30. Have over-all responsibility for the classification program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	31. Establish cataloging policies and procedures
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	32. Establish classification policies and procedures
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	33. Expand, develop, and improve classification schemes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	34. Develop terminology control schemes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	35. Classify and/or reclassify books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	36. Classify and/or reclassify non-book materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	37. Expand, develop, and improve lists of subject headings
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	38. Do descriptive cataloging of books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	39. Do descriptive cataloging of non-book materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	40. Do subject cataloging of books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	41. Do subject cataloging of non-book materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	42. Work on the production of book catalogs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	43. Use reprography for catalog card reproduction
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	44. Establish and revise filing rules or special codes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	45. Maintain cataloging records
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	46. Revise cataloging and/or classification done by others
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	47. Catalog and/or classify rare books
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	48. Catalog and/or classify public documents and technical reports
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	49. Other:



This is a guide card provided to make the check lists easier for you to complete.

Note: If a factor is NOT PRESENT at all in the activities of your position now, please leave the boxes that pertain to it blank.

The check lists in this questionnaire, Section I, A & B, are designed to give an idea of the emphasis you give to areas of your job now through your own evaluation of different activities in terms of time and importance. In completing these questions, please check the SYMBOL that best describes the degree of TIME and IMPORTANCE you attach to the items.



TIME ●	TIME ◑	TIME ○	IMPORTANCE ●	IMPORTANCE ◑	IMPORTANCE ○	JOB ACTIVITIES
						IN MY POSITION, IN THE AREA OF CIRCULATION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	50. Have over-all responsibility for circulation system
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	51. Develop circulation systems
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	52. Circulate holdings on request
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	53. Circulate holdings using an EAM-based system
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	54. Circulate holdings using an EDP-based system
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	55. Circulate interlibrary loan materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	56. Develop procedures for providing photoduplication of materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	57. Route periodicals on request
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	58. Route pertinent clippings and ephemeral materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	59. Other:
						IN MY POSITION, IN THE AREA OF CLIENTELE SERVICES, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	60. Have over-all responsibility for clientele services
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	61. Initiate user services
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	62. Refer clients to sources of information
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	63. Instruct users in reference methods and information sources
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	64. Provide research assistance
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	65. Plan and/or conduct orientation programs for clientele
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	66. Compile reading lists
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	67. Other:
						IN MY POSITION, IN THE AREA OF INDEXING, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	68. Supervise the preparation and/or production of all indexes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	69. Provide Key-word-in-context indexing service
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	70. Do concept indexing
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	71. Do coordinated indexing
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	72. Do citation indexing
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	73. Do conventional indexing
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	74. Index data for storage and retrieval
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	75. Prepare thesauri and/or terminology control schemes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	76. Other:
						IN MY POSITION, IN THE AREA OF LITERATURE SEARCHING, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	77. Have over-all responsibility for the literature searching program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	78. Establish selective dissemination of information program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	79. Establish and/or maintain a field-of-interest register for users
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	80. Match information against field-of-interest profiles
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	81. Notify users of material that match their profiles
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	82. Conduct retrospective searches
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	83. Analyze and evaluate data for users
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	84. Publish contents of selected periodicals
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	85. Other:
						IN MY POSITION, IN THE AREA OF MAINTENANCE OF HOLDINGS, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	86. Give over-all supervision to the maintenance of holdings
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	87. Maintain hardbound holdings
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	88. Supervise binding of softbound documents
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	89. Keep serial bindery records
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	90. Keep non-serial bindery records
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	91. Store material in microform
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	92. Provide viewing and printing equipment for microforms
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	93. Plan a program for updating material
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	94. Weed out-of-date material by a planned program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	95. Other:
						IN MY POSITION, IN THE AREA OF REFERENCE, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	96. Have over-all responsibility for the reference services provided
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	97. Establish reference service policies
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	98. Actively answer reference questions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	99. Develop and/or maintain a referral reference center
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	100. Organize systems for quick reference
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	101. Reference other material pertinent to information under consideration
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	102. Other:
						IN MY POSITION, IN THE AREA OF RESEARCH, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	103. Am responsible for the adequacy and soundness of research activity
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	104. Research with information
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	105. Do information scouting using non-print sources
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	106. Prepare analytical, evaluative state-of-the-art reports
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	107. Other:

A. Performing Specialized Library Functions (continued)

TIME ●	TIME ◑	TIME ○	IMPORTANCE ●	IMPORTANCE ◑	IMPORTANCE ○	JOB ACTIVITIES
						IN MY POSITION, IN THE AREA OF SELECTION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	108. Have over-all responsibility for operation of selection system
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	109. Formulate policies for selection
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	110. Allocate funds between departments, subjects, collections
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	111. Make final decisions on selection of material for unit or subject area
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	112. Serve as a selection official for materials purchased centrally for distribution to branch, mobile, extension, or regional collections
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	113. Identify needs of clientele
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	114. Make tentative selection of material from reviews, catalogs, lists
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	115. Prepare lists of materials needed in specific subject areas
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	116. Decide on number of duplicate copies and on editions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	117. Decide on acceptability of gifts
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	118. Select serials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	119. Select non-book materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	120. Make recommendations on selection of materials
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	121. Other:
						IN MY POSITION, IN THE AREA OF TRANSLATION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	122. Have over-all responsibility for my library's translation program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	123. Translate material into foreign languages
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	124. Translate material from foreign languages into English
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	125. Abstract and translate
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	126. Extract and translate
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	127. Other:

B. Performing General Administrative and Management Functions

In this Section B, the items apply to the administrative and management functions you perform now in your job as related to your area of responsibility, whether it be for a whole library, a branch, department or division, or the specialized library functions to which you are assigned. To help you find the administrative and management functions you perform, the following list is provided:

--Planning, Items 128 through 150
--Organizing, Items 151 through 162
--Staffing, Items 163 through 186
--Directing, Items 187 through 208
--Coordinating, Items 209 through 214
--Controlling, Items 215 through 227
--Representing, Items 228 through 238
--Housing, Items 239 through 244

TIME ●	TIME ◑	TIME ○	IMPORTANCE ●	IMPORTANCE ◑	IMPORTANCE ○		JOB ACTIVITIES
							IN MY POSITION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	PLANNING	128. Integrate library programs with missions of parent organization
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		129. Establish goals and objectives for the library
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		130. Forecast new and/or changed demands for service
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		131. Determine needed programs for the library
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		132. Direct over-all preparation of the program budget
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		133. Compute costs of the library's programs and/or activities
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		134. Compare the cost and effectiveness of feasible alternatives
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		135. Make budget request decisions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		136. Provide analytical studies justifying budget request decisions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		137. Prepare a multi-year summary tabulation of library programs in terms of their outputs, costs, and funding for at least 5 years in advance
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		138. Negotiate with higher management about allocation of funds
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		139. Prepare material for inclusion in policy statements
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		140. Recommend policy changes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		141. Devise detailed procedures to implement general policy
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		142. Help develop new programs and/or activities
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		143. Provide for participation of employees in planning programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		144. Use PERT as an aid in planning
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		145. Use Operations Research methods as an aid in planning
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		146. Plan for the installation of mechanized systems
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		147. Identify and plan research activities
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		148. Advise on application of research findings
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		149. Keep informed about the latest relevant research and developments
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		150. Other:

B. Performing General Administrative and Management Functions (continued)

TIME	IMPORTANCE							JOB ACTIVITIES
●	◑	○	●	◑	○			**IN MY POSITION, I:**
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	ORGANIZING	151.	Group activities necessary to attain library's objectives
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		152.	Assign each grouping to a supervisor with authority necessary to manage it
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		153.	Allocate personnel to the various activity groupings
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		154.	Distribute material resources among the various parts of the library
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		155.	Determine line and staff authority relationships
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		156.	Prepare and/or update organization charts
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		157.	Create and/or maintain a staff manual
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		158.	Modify organizational structure to meet changes
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		159.	Organize the clerical processing of information
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		160.	Sometimes use committees to undertake line or staff functions
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		161.	Provide each department with a clear definition of results expected
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		162.	Other:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	STAFFING	163.	Codify personnel philosophy, policies and procedures
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		164.	Forecast future staffing needs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		165.	Recruit additional staff members
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		166.	Select personnel
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		167.	Use probationary period as a testing program before final appointment
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		168.	Study and implement the Civil Service Classification Standards
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		169.	Prepare position descriptions or analyses
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		170.	Develop employee orientation programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		171.	Determine training needs at each organizational level
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		172.	Build training programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		173.	Serve as an instructor in training programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		174.	Use some psychological approaches to training, such as sensitivity groups and/or role playing
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		175.	Arrange for personnel to go outside agency for training
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		176.	Develop and/or implement a system for career development
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		177.	Make and/or approve recommendations for promotion
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		178.	Nominate employees for awards and/or special recognition
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		179.	Make and/or approve recommendations for separation of employees
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		180.	Conduct exit interviews
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		181.	Make performance appraisals using traditional formal systems
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		182.	Make appraisals using "management by objectives" techniques
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		183.	Provide a feed-back or suggestion system for employees
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		184.	Maintain adequate personnel records for all employees
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		185.	Participate in meetings with employee associations
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		186.	Other:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	DIRECTING	187.	Directly supervise and guide subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		188.	Assign jobs to subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		189.	Harmonize individual objectives with library's objectives
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		190.	Train new employees in the performance of their work
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		191.	Check the accuracy of work of subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		192.	Brief subordinates on immediate and continuing library programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		193.	Make decisions without consulting others
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		194.	Make decisions based on consultation with subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		195.	Give orders to initiate, modify, or stop activities
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		196.	Install operating procedures for new activities and/or programs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		197.	Give subordinates authority to command or to act in certain areas
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		198.	Review decisions and/or proposals that are made by subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		199.	Stimulate subordinates toward superior performance and creativity
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		200.	Use "job enrichment" as a means of motivating subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		201.	Identify and develop potential in subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		202.	Counsel subordinates about their career development
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		203.	Administer discipline
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		204.	Formulate communication and express it understandably
							205.	Use the informal organization as a means of communication
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		206.	Give prompt and full attention to all communications received
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		207.	Frame and transmit communications to support organizational objectives
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		208.	Other:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	COORDINATING	209.	Coordinate the activities of separate groups within the library
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		210.	Exchange ideas and reach understandings through direct contact with others in the library who are not my subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		211.	Hold group meetings with subordinates
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		212.	Participate in developing inter-library cooperative networks
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		213.	Anticipate problems and prevent their occurrence through continuous interchange of information and early and direct contact of all involved
]	[ ]	[ ]	[ ]	[ ]	[ ]		214.	Other:

TIME ●	TIME ◑	TIME ○	IMPORTANCE ●	IMPORTANCE ◑	IMPORTANCE ○		JOB ACTIVITIES
							IN MY POSITION, I:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	CONTROLLING	215. Establish standards in terms of specific criteria
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		216. Schedule activities to ensure that deadlines are met
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		217. Assign priorities for the completion of work
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		218. Use the budget to monitor progress of activities
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		219. Solicit and evaluate clientele reactions to library's services
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		220. Measure performance against standards, schedules, budgets, surveys
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		221. Correct the deviations from standards that are discovered
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		222. Use statistical analysis and/or special reports as control devices
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		223. Use systems analysis as a means of control
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		224. Use the techniques of work simplification to correct inefficiencies
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		225. Account for the utilization of resources and meeting of goals
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		226. Prepare regular progress reports to higher management
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		227. Other:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	REPRESENTING	228. Interpret library programs to key officials, users, special groups
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		229. Approve material prepared for public use
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		230. Am responsible for a publications program
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		231. Issue news releases
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		232. Edit drafts of reports, statements and/or technical documents
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		233. Write articles of a professional nature
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		234. Write or dictate at least 25 letters per week
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		235. Negotiate with other groups in agency to get goods and/or services
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		236. Arrange for the services of contractors and/or consultants
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		237. Attend professional meetings and/or conferences
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		238. Other:
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	HOUSING	239. Plan and justify library quarters
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		240. Determine equipment needed and compute costs
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		241. Procure equipment needed
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		242. Manage the use of library space
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		243. Manage library's physical maintenance
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		244. Other:

PLEASE MAKE ANY ADDITIONAL COMMENTS WHICH YOU FEEL ARE NEEDED TO GIVE AN ADEQUATE PICTURE OF YOUR JOB ACTIVITIES ON THE LAST PAGE OF THE QUESTIONNAIRE WHERE SPACE IS PROVIDED FOR ADDITIONAL REMARKS.

PART II. YOUR EDUCATIONAL NEEDS

Listed below are some courses that could be offered at the post-MLS level to help librarians in mid-career upgrade and update their present knowledge. Please check your interest in studying in these areas according to the following headings, which are also given at the top of the columns to the left of the course listings.

WORKSHOP: If you are interested in spending time in a short-term (few days to four weeks) workshop or institute;

COURSE NOW: If you are interested in taking a post-MLS course for credit at the present time;

COURSE LATER: If you are interested in taking a post-MLS course for credit at a later time (three to five years from now).

[ ] [ ] [ ] If you are not interested in formal study in a given course, please leave the boxes that pertain to it blank.

WORK-SHOP	COURSE NOW	COURSE LATER	COURSE AREAS
			ACQUISITIONS AND SELECTION
[ ]	[ ]	[ ]	1. Building and Evaluating Library Collections: Criteria for evaluating and selecting library materials, devising and maintaining an acquisition system.
[ ]	[ ]	[ ]	2. Centralized Processing: Principles and problems of developing centers for acquisition, cataloging, and the physical preparation of materials.
[ ]	[ ]	[ ]	3. Current Practices in Acquisition and Selection of Non-Book Materials. Including an understanding of the new technology which governs the selection and use of video tapes, dial access sets, audio-visual materials, etc., in libraries.
[ ]	[ ]	[ ]	4. Other:

WORK-SHOP	COURSE NOW	COURSE LATER	COURSE AREAS
			ADMINISTRATION AND GENERAL MANAGEMENT OF LIBRARIES:
[ ]	[ ]	[ ]	5. Administrative Policies and Practices: Emphasis on library organization and its operational problems relevant to top levels of administration.
[ ]	[ ]	[ ]	6. Communication Theory and Processes: The communication process; media techniques employed by the library manager; public relations.
[ ]	[ ]	[ ]	7. Design of Library Organizations: Developing structures that effectively organize all resources necessary to achieve the library's organizational objectives. Consideration of re-design necessitated by impact of technological changes in the library.
[ ]	[ ]	[ ]	8. General Management: Developing the skills of the middle-level library manager by focusing on the basic processes of management.
[ ]	[ ]	[ ]	9. Human Relations in Library Administration: Exploration of the interpersonal and inter-group relationships in a library organizational setting; employee motivation; the managerial environment.
[ ]	[ ]	[ ]	10. Innovation and Planned Change in Library Organizations: The social psychology and management implications of change.
[ ]	[ ]	[ ]	11. Management of Records Systems in the Library: Emphasis on the development and installation of records management program.
[ ]	[ ]	[ ]	12. Personnel Administration in Libraries: Procedures of the major personnel sub-functions including recruitment, selection, classification, placement, appraisal, and training.
[ ]	[ ]	[ ]	13. Personnel Problems Under the Impact of Technological Change: Library Applications. Emphasis on adjusting the individual to ADP conversions; job redesign; reclassifying jobs; training and retraining.
[ ]	[ ]	[ ]	14. Policy Formation and Decision-Making in Library Organizations.
[ ]	[ ]	[ ]	15. Program Planning and Budgeting: Library applications. The processes and instruments of planning, programming, and budgetary functions of the library, with special emphasis on the current approaches of the Federal Government in this function.
[ ]	[ ]	[ ]	16. Public Administration: Introductory survey with library applications.
[ ]	[ ]	[ ]	17. Theories of Organization and Management: Library applications.
[ ]	[ ]	[ ]	18. Other:
			ADMINISTRATION OF SPECIAL TYPES OF LIBRARY SERVICES
[ ]	[ ]	[ ]	19. Administration of the Special Federal Library.
[ ]	[ ]	[ ]	20. Archival Administration.
[ ]	[ ]	[ ]	21. Hospital Library Administration and Service.
[ ]	[ ]	[ ]	22. Information Center Administration.
[ ]	[ ]	[ ]	23. Law Library Administration and Service.
[ ]	[ ]	[ ]	24. Rare Book Librarianship.
[ ]	[ ]	[ ]	25. Other:
			AUTOMATION
[ ]	[ ]	[ ]	26. Automation of Library Processes: Application of computer technology to library processes.
[ ]	[ ]	[ ]	27. Information Processing on Computers: The functions performed and organization of computers; principles of programming and symbol manipulation.
[ ]	[ ]	[ ]	28. Information Retrieval Systems: Structure and operation of information systems, including question analysis, search strategy, thesaurus construction.
[ ]	[ ]	[ ]	29. Other:
			BIBLIOGRAPHY
[ ]	[ ]	[ ]	30. Analytical Bibliography.
[ ]	[ ]	[ ]	31. Enumerative Bibliographical Systems.
[ ]	[ ]	[ ]	32. Other:
			CATALOGING AND CLASSIFICATION
[ ]	[ ]	[ ]	33. Cataloging and Classification of Non-Book Materials.
[ ]	[ ]	[ ]	34. Centralized Cataloging at the National Level. Emphasis on the Library of Congress MARC II Project, its uses and implications.
[ ]	[ ]	[ ]	35. Centralized Cataloging at the International Level. The importance, uses and implications of "The National Program for Acquisitions and Cataloging " as provided under Title IIC of the Higher Education Act of 1965.
[ ]	[ ]	[ ]	36. New Advances in Classification Schemes and Cataloging Systems: A Survey.
[ ]	[ ]	[ ]	37. Recataloging and Reclassification: Problems and Procedures.
[ ]	[ ]	[ ]	38. Subject Representation: Theory of knowledge, descriptor systems, nature of of classificatory languages.
[ ]	[ ]	[ ]	39. Other:

PART II. YOUR EDUCATIONAL NEEDS (continued)

WORK-SHOP	COURSE NOW	COURSE LATER	COURSE AREAS
			CIRCULATION
[ ]	[ ]	[ ]	40. Circulation Systems: Overview and evaluation of new circulation systems with special emphasis on EAM and ADP based equipment and procedures for installing a new system in a library.
[ ]	[ ]	[ ]	41. Reprography: Using reprographic processes (printing, duplicating, copying, microreproduction) to maximize library service.
[ ]	[ ]	[ ]	42. Other:
			CLIENTELE SERVICES
[ ]	[ ]	[ ]	43. Information Retrieval for Clientele. Forecasting and analyzing clientele needs: the psychology of the user; initiating user services; development of orientation programs for users; instructing users in reference methods and sources.
[ ]	[ ]	[ ]	44. Literature Searching. Development of current awareness programs, automatic routing systems based on individual profiles of clients; analysis of data.
[ ]	[ ]	[ ]	45. Other:
			HOUSING AND EQUIPMENT
[ ]	[ ]	[ ]	46. Equipment Evaluation, Selection, and Procurement.
[ ]	[ ]	[ ]	47. Library Design and Architecture. Including problems of redesign and remodeling.
[ ]	[ ]	[ ]	48. Planning and Justifying Library Quarters.
[ ]	[ ]	[ ]	49. Other:
			INDEXING AND ABSTRACTING
[ ]	[ ]	[ ]	50. Abstracting and Indexing Services. Principles, practices, and development of abstracting and indexing services; integrating these into the complex of special library operations, with emphasis upon current awareness and the retrospective searching needs of clientele.
[ ]	[ ]	[ ]	51. Content Analysis. Description, analysis and summarization of the intellectual content of information.
[ ]	[ ]	[ ]	52. Theories of Indexing and Information Retrieval. Conceptual aspects of indexing and subject analysis.
[ ]	[ ]	[ ]	53. Other:
			INFORMATION SCIENCE
[ ]	[ ]	[ ]	54. Equipment and Instrumentation.
[ ]	[ ]	[ ]	55. Linguistics and Information Science.
[ ]	[ ]	[ ]	56. Mathematical Techniques for Information Science.
[ ]	[ ]	[ ]	57. The Scope of Information Science. Relationship of information sciences to libraries, information centers, and information networks.
[ ]	[ ]	[ ]	58. Other:
			LIBRARIES, GOVERNMENT, AND SOCIETY
[ ]	[ ]	[ ]	59. Current Issues in Librarianship and Information Science.
[ ]	[ ]	[ ]	60. Cybernetics and Society. Implications for libraries and information centers.
[ ]	[ ]	[ ]	61. International Library Services and Resources.
[ ]	[ ]	[ ]	62. Labor Relations and Library Employment.
[ ]	[ ]	[ ]	63. The Library Administrator and Government Policy, Organization and Operation.
[ ]	[ ]	[ ]	64. Library Networks: Interlibrary cooperation at the regional, national, and international levels. Applications of communications technology.
[ ]	[ ]	[ ]	65. Mass Media in Communication. Audience, content, structure, control and effects of mass media in society and their impact on librarianship.
[ ]	[ ]	[ ]	66. Resources and Services of the Federal Library Complex. An orientation through planned on-site visits to selected libraries and information centers.
[ ]	[ ]	[ ]	67. Other:
			PUBLICATION
[ ]	[ ]	[ ]	68. Publication in the Library and Information Science Fields. Advanced training in writing, editing, report preparation, layout and design; the individual's responsibility in the dissemination of research findings.
[ ]	[ ]	[ ]	69. Publishing in the Twentieth Century: Book and Non-Book Materials. Survey of publishing industry today; structure of the industry; relations between libraries and publishing; practices in binding and distribution; the copyright controversy.
[ ]	[ ]	[ ]	70. Other:
			REFERENCE
[ ]	[ ]	[ ]	71. Development and Maintenance of a Reference Referral Center.
[ ]	[ ]	[ ]	72. Non-Conventional Library Reference Tools. The effective use of the telephone, the authority, the private collector, other libraries, associations, consulates, congressmen, archives, patents, newspaper morgues, commercial catalogs, etc.
[ ]	[ ]	[ ]	73. Organization and Administration of Reference Systems.
[ ]	[ ]	[ ]	74. Search Logic and Tactics.
[ ]	[ ]	[ ]	75. Other:

PART II. YOUR EDUCATIONAL NEEDS (continued)

WORK-SHOP	COURSE NOW	COURSE LATER	COURSE AREAS
			RESEARCH
[ ]	[ ]	[ ]	76. Operations Research in Library Management.
[ ]	[ ]	[ ]	77. Research Development in Libraries. Survey and impact of recent research findings on library operations; interpretation and application of research findings in other disciplines to the library environment; writing research proposals; management of research groups.
[ ]	[ ]	[ ]	78. Statistical Theory and the Interpretation of Statistical Data for Researching in Libraries and Information Centers.
[ ]	[ ]	[ ]	79. Other:
			SPECIALIZED INFORMATION SOURCES
[ ]	[ ]	[ ]	80. Agricultural Literature and Research.
[ ]	[ ]	[ ]	81. Behavioral Science Literature and Research.
[ ]	[ ]	[ ]	82. Biomedical Literature and Research.
[ ]	[ ]	[ ]	83. Business and Economics Literature and Research.
[ ]	[ ]	[ ]	84. Documents of International Organizations and Foreign Governments.
[ ]	[ ]	[ ]	85. Fine Arts Literature and Research.
[ ]	[ ]	[ ]	86. Legal Literature and Research.
[ ]	[ ]	[ ]	87. Scientific and Technical Literature and Research.
[ ]	[ ]	[ ]	88. Social Science Literature and Research.
[ ]	[ ]	[ ]	89. Technical Report Literature.
[ ]	[ ]	[ ]	90. U.S. Public Documents: Federal, state, and municipal.
[ ]	[ ]	[ ]	91. Other:
			SYSTEMS ANALYSIS
[ ]	[ ]	[ ]	92. Library Management Information Systems.
[ ]	[ ]	[ ]	93. Systems Analysis and Design for Library and Information Center Operations.
[ ]	[ ]	[ ]	94. Systems Analysis in Information Science. Basic concepts of systems applied to the design and analysis of information systems.
[ ]	[ ]	[ ]	95. Other:

96. WOULD YOU ENROLL FOR A ONE YEAR POST-MLS PROGRAM IN LIBRARY SCIENCE? 1.[ ] Yes 2.[ ] No
97. If yes, WOULD CERTAIN CONDITIONS BE NECESSARY FOR YOU TO ENROLL? 1.[ ] Yes 2.[ ] No
98. If yes, WHAT CONDITIONS? _____

99. WOULD YOU ENROLL FOR A GRADUATE PROGRAM IN SOME OTHER SUBJECT AREA? 1.[ ] Yes 2.[ ] No
100. If yes, WHAT AREA OR DISCIPLINE? _____

101. WOULD YOU ENROLL FOR A PH.D. PROGRAM IN LIBRARY SCIENCE? 1.[ ] Yes 2.[ ] No
102 If yes, WOULD CERTAIN CONDITIONS BE NECESSARY FOR YOU TO ENROLL? 1.[ ] Yes 2.[ ] No
103. If yes, WHAT CONDITIONS? _____

104. WOULD YOU ENROLL FOR A PH.D. PROGRAM IN ANOTHER SUBJECT AREA? 1.[ ] Yes 2.[ ] No
105. If yes, WHAT AREA OR DISCIPLINE? _____
106. IN ADDITION TO OFFERING COURSES, INSTITUTES, AND WORKSHOPS, IN WHAT OTHER WAYS DO YOU SEE THAT THE LIBRARY SCHOOL COULD HELP YOU IN YOUR PROFESSIONAL DEVELOPMENT?

PART III. SOME INFORMATION ABOUT YOURSELF AND YOUR CAREER

A. Your Present Job

1. WHAT IS THE GRADE OF YOUR PRESENT POSITION? Please check correct grade. If your position is outside the U.S. Civil Service Classification grades, please check the grade level to which it would be equivalent in the Civil Service System.
   1. [ ] GS 9; 2.[ ]GS 10; 3.[ ] GS 11; 4.[ ] GS 12; 5.[ ] GS 13; 6. [ ] GS 14; 7. [ ] Other: _____

2. WHAT IS THE TITLE OF YOUR PRESENT POSITION? _____
3. THE FOLLOWING CATEGORIES ARE USED BY THE U.S. CIVIL SERVICE COMMISSION TO CLASSIFY PROFESSIONAL POSITIONS IN FEDERAL LIBRARIES AND INFORMATION CENTERS. Please check the one classification which best characterizes your present position.

GS 1410--Librarian Series

1.[ ] Librarian (please specify appropriate specialization): _____
2.[ ] Administrative librarian
3.[ ] Supervisory librarian
4.[ ] Library director

GS 1412--Technical Information Services Series

5.[ ] Technical information specialist
6.[ ] Supervisory technical information specialist
7.[ ] Technical information officer (please specify appropriate specialization) _____

8.[ ] If your position fits none of the classifications listed above, please indicate it here:

N WHICH ONE OF THE FOLLOWING TYPES OF LIBRARY ACTIVITY ARE YOU PRIMARILY ENGAGED? Please heck only the one box (in Section A, B, C, or D) that indicates your primary responsibility.

. ADMINISTRATIVE:

1.[ ] Head of library
2.[ ] Assistant or Associate Head
3.[ ] Head of department or division
4.[ ] Head of branch
5.[ ] Head of regional or field library
6.[ ] Other: _____

R

. 7.[ ] SUPERVISORY (responsibility for supervising a number of professional and/or technical positions, but do not have over-all program responsibility).

R

. 8.[ ] ONE TO THREE PERSON LIBRARY--general responsibilities

R

. PROFESSIONAL SPECIALTY:

.[ ] Abstracting
.[ ] Acquisitions
.[ ] Analyzing source materials
.[ ] Archives
.[ ] Bibliography
.[ ] Cataloging
.[ ] Circulation
.[ ] Classification
.[ ] Clientele services
.[ ] Coordinator
19.[ ] Data processing
20.[ ] Documents and/or reports
21.[ ] Editing and/or writing
22.[ ] Indexing
23.[ ] Information retrieval
24.[ ] Literature searching
25.[ ] Non-print materials
26.[ ] Personnel
27.[ ] Public relations
28.[ ] Reference
29.[ ] Research
30.[ ] Revision
31.[ ] Selection of materials
32.[ ] Serials
33.[ ] Subject specialty: What area(s)? _____
34.[ ] Systems analysis
35.[ ] Technical services
36.[ ] Terminology control
37.[ ] Translation: What language(s)? _____
38.[ ] Other: _____

S YOUR PRESENT POSITION LOCATED IN:
1. [ ] Agency headquarters library?
2. [ ] Regional or field library?
3. [ ] Branch library?
4. [ ] Other:

PPROXIMATELY WHAT IS THE TOTAL NUMBER OF PEOPLE (professional and non-professional) MPLOYED IN YOUR LIBRARY AT THIS LOCATION WHERE YOU WORK? . . . . . [_____]

OF THIS NUMBER, APPROXIMATELY HOW MANY EMPLOYEES HAVE A GRADE OF GS-9 OR HIGHER? [_____]

PPROXIMATELY WHAT IS THE TOTAL NUMBER OF PEOPLE (professional and non-professional) MPLOYED IN THE ENTIRE LIBRARY SYSTEM OF WHICH YOUR LIBRARY IS A PART? . . . . . [_____]

O YOU SUPERVISE OTHER MEMBERS OF THE LIBRARY STAFF? . . . . . 1. [ ] Yes; 2. [ ] No
If yes, ALL TOGETHER HOW MANY EMPLOYEES ARE RESPONSIBLE TO YOU? (Please include those you supervise directly and those who report through a chain of command) . . [_____]

RE YOU INVOLVED AT AN ADMINISTRATIVE OR SUPERVISORY LEVEL IN APPLYING ELECTRONIC ATA PROCESSING PROCEDURES? 1. [ ] Yes; 2. [ ] No

HICH ACTIVITIES IN YOUR LIBRARY ARE AUTOMATED? (Please put a check mark in the box before L areas in which your library is now automated or in the process of being automated).

.[ ] Accounting
.[ ] Acquisitions
.[ ] Bibliography production
.[ ] Book catalog production
.[ ] Book indexing
.[ ] Catalog card production
.[ ] Circulation control
.[ ] Document information retrieval
20.[ ] Graphic storage of materials
21.[ ] Legislative indexing
22.[ ] Patron control
23.[ ] Personnel records
24.[ ] Reference queries
25.[ ] Report inventory
26.[ ] Selective dissemination
27.[ ] Serial records
28.[ ] Tele-communication devices
29.[ ] Thesauri preparation
30.[ ] Union lists
31.[ ] Other _____

AT IS THE MINIMUM EXPERIENCE IN LIBRARY OR INFORMATION CENTER ASSIGNMENTS REQUIRED TO PERFORM UR JOB? (Please circle approximate number of years).

None 1 2 3 4 5 6 7 Over 7 Years

W WELL DOES YOUR JOB UTILIZE YOUR TALENTS? (Please check approximate answer):

[ ] Excellently; 2.[ ] Very well; 3.[ ] Fairly well; 4.[ ] Very little; 5.[ ] Not at all

PROXIMATELY HOW MANY HOURS PER WEEK ARE YOU REQUIRED TO DO AVOIDABLE DETAIL WORK THAT YOU EL SHOULD NOT BE PART OF YOUR JOB?

[_____] Hours per week

B. Your Education

TO GIVE US A PICTURE OF YOUR EDUCATIONAL BACKGROUND, PLEASE COMPLETE THE TABLE BELOW.
(Please use a separate line for each degree held and check the box for each line that applies).

TYPE OF STUDY PROGRAM	TITLE OF DEGREE RECEIVED	YEAR PROGRAM COMPLETED	IF PROGRAM NOT COMPLETED: Approx. No. of Hours to Date	IF PROGRAM NOT COMPLETED: Last Date Enrolled	AREA OF SPECIALIZATION
35. [ ] Bachelor's (Undergraduate)					
36. [ ] Bachelor's (Undergraduate)					
37. [ ] Bachelor's (graduate degree in Library Science)					
38. [ ] Master's in Library Science					
39. [ ] Master's in Information Science					
40. [ ] Doctor's in Library Science					
41. [ ] Doctor's in other subject area					
42. [ ] Post-MLS 6th year program in Library Science					
43. [ ] Certificate or Diploma					
44. [ ] Other courses for Credit					
45. [ ] Non-Credit Courses					
46. [ ] Workshops, Institutes, or Seminars					
47. [ ] Workshops, Institutes, or Seminars					
48. [ ] Other:					

49. ARE THERE ANY FORMAL SCIENTIFIC, TECHNICAL, OR PROFESSIONAL COURSES YOU LACK WHICH YOU FEEL WOULD HAVE BEEN ESPECIALLY HELPFUL IN YOUR POSITION? 1. [ ] Yes; 2. [ ] No
If yes, Please specify courses or course areas:

50. IN RELATION TO YOUR PRESENT POSITION, ARE THERE ANY ACTIVITIES YOU SHOULD BE ENGAGED IN FOR WHICH YOUR PREVIOUS TRAINING HAS NOT PREPARED YOU? 1. [ ] Yes; 2. [ ] No
If yes, Please specify these activities:

C. Your Experience

DEFINITIONAL NOTE: In this study, the term "professional librarian" includes all librarians, administrators, and other specialists with responsibility in the field of librarianship or information science who have received a Master's degree in Library Science or, before the early 1950's, a Bachelor's degree in Library Science at the graduate level.

BASED ON THIS DEFINITION:

51. HOW MANY YEARS OF PRE-PROFESSIONAL LIBRARY EXPERIENCE DO YOU HAVE? . . . . [_____] Years

52. HOW MANY YEARS OF PROFESSIONAL LIBRARY EXPERIENCE DO YOU HAVE? . . . . . [_____] Years

53. HOW MANY YEARS OF PROFESSIONAL EXPERIENCE HAVE YOU HAD IN YOUR PRESENT ORGANIZATION OR AGENCY LIBRARY? . . . . . [_____] Years

54. HOW MANY YEARS HAVE YOU BEEN WORKING IN YOUR PRESENT POSITION? . . . . . [_____] Years

55. HOW MANY YEARS HAVE YOU WORKED FOR THE FEDERAL GOVERNMENT? (Exclude uniformed military service if not library related) . . . . . [_____] Years

56. IN HOW MANY OTHER LIBRARIES OR INFORMATION CENTERS IN THE FEDERAL GOVERNMENT HAVE YOU HELD PROFESSIONAL POSITIONS? . . . . . [_____] Libraries

IN HOW MANY LIBRARIES OUTSIDE THE FEDERAL GOVERNMENT HAVE YOU HELD PROFESSIONAL POSITIONS? . . . . . [ ] Libraries

58. HAVE YOU HAD ANY EXPERIENCE IN AN OCCUPATION OTHER THAN LIBRARIANSHIP? 1. [ ] Yes; 2. [ ] No (If no, skip to question 62).

59. WAS ANY OF YOUR NON-LIBRARY EXPERIENCE AT A PROFESSIONAL, TECHNICAL OR ADMINISTRATIVE LEVEL?
1. [ ] Yes; 2. [ ] No (If no, skip to question 62).

60. PLEASE SPECIFY THE TYPE OF WORK AND THE OCCUPATIONAL FIELD IN WHICH YOU HAD MOST OF THIS EXPERIENCE (e.g., teaching high school English, programmer for I.B.M.): _____

61. PLEASE SPECIFY YOUR SECOND PRINCIPAL OCCUPATION PRIOR TO YOUR ENTRY INTO LIBRARIANSHIP (if any):

62. FROM THE TIME THAT YOU ACCEPTED YOUR FIRST PROFESSIONAL POSITION IN A LIBRARY, DID YOU EVER LEAVE LIBRARY WORK FOR A PERIOD OF SIX MONTHS OR MORE?
1. [ ] Yes; 2. [ ] No IF YES, WHY? (please check one or more);

63. [ ] To obtain further education
64. [ ] For marriage or family reasons
65. [ ] To work in another occupation
66. [ ] For military service
67. [ ] To travel
68. [ ] Other reason: _____

BEFORE YOU ACCEPTED YOUR PRESENT POSITION, DID YOU EVER HOLD A PROFESSIONAL POSITION IN: (Please check all those in which you have held professional positions).

69. [ ] Academic library; 70. [ ] School library; 71. [ ] Special (non-government) library

IN WHICH OF THE ACTIVITIES WHICH CONSTITUTE AN INTEGRAL PART OF YOUR JOB DO YOU FEEL YOU PERFORM WITH THE GREATEST COMPETENCE? PLEASE INDICATE WHY YOU FEEL YOU HAVE ACHIEVED THE GREATEST COMPETENCE IN THESE:

72. I feel that I have probably achieved the greatest competence in _____ because _____

73. I feel that I have probably achieved the next greatest competence in _____ because _____

74. Probably the area of my third greatest competence is in _____ because _____

IN WHICH OF THE ACTIVITIES WHICH CONSTITUTE AN INTEGRAL PART OF YOUR JOB DO YOU FEEL YOU PERFORM WITH THE LEAST COMPETENCE? PLEASE INDICATE WHY YOU FEEL YOU HAVE ACHIEVED LITTLE COMPETENCE IN THESE AREAS.

75. I feel that I am probably least competent in _____ because _____

76. I do not feel very competent, either, in _____ because _____

77. Another area in which I do not feel as competent as I would like to be is _____ because _____

78. Suppose you were leaving your library or center for another position, and the administration asked you to recommend someone as your replacement. Suppose, further, that you knew your views would weigh heavily in the final decision. Let us assume, further, that you are leaving your present position with great reluctance and that you have great affection for your library. Hence, you want to see yourself replaced with the type of person most likely to do a top-notch job after you have gone. Also keep in mind the changes that you foresee coming to your library and the necessity of your replacement adapting to these changes.

BASED ON THESE CONSIDERATIONS, WHAT KNOWLEDGE AND WHICH ABILITIES OR SKILLS WOULD YOU CONSIDER MOST IMPORTANT FOR YOUR REPLACEMENT TO HAVE?

Most Important Knowledge	Most Important Abilities and/or Skills

C. Classification Information

79. WHAT IS YOUR AGE? [_____] 80. ARE YOU: 1. [ ] Male; 2. [ ] Female

Your comments on job activities:

In spite of the number of job activities listed, it is very possible that there are others which we have overlooked that you may wish to add. Also, any comments you have about the statements as listed would be welcome.

Your suggestions for courses and curricula:

It is very possible that we have not included courses or areas of study which are very important to you as you plan for your professional development. Further, we may have stated badly a course you need and you may wish to restate it. We would also be interested in your general comments about continuing formal education in a university setting which might help us as we plan for the future.

Your ideas for the study as a whole:

We would also appreciate your general or specific recommendations as we proceed with the ultimate objective of curriculum building. After going through this material, is there anything that we have omitted to ask that you feel we should know in order to do a better job for you? This questionnaire represents input from the librarians practicing in the field. Do you have suggestions or advice on other groups we should question or interview, such as supervisors, users, officials in an agency who are served by the library? If some of your ideas seem "way-out," don't hesitate to list them as we want to consider innovative and creative approaches as well as those that are more generally accepted.

This is the end!
Thank you for your help. We look forward to having your reaction to the results of this survey.

James J. Kortendick
Elizabeth W. Stone

Please use the enclosed, self-addressed, reply envelope to return the questionnaire.

APPENDIX C: FOLLOW-UP LETTER TO QUESTIONNAIRE

The Catholic University of America
Washington, D. C. 20017

DEPARTMENT OF LIBRARY SCIENCE

You will be interested, we think, in a progress report on the questionnaire on "Post-MLS Education for Middle and Upper-Level Personnel in Libraries and Information Centers," which we sent you recently.

The response has been most cordial; replies have been coming in with every mail. When it is considered that such a relatively short time has elapsed since the questionnaire reached those in the sample, the response from just over forty per cent is most encouraging.

Because of the flu epidemic, which seems to have put everyone behind, we have been able to reschedule the time set for putting the data through the computer, so there is still time to hear from you.

Our statistician tells us: "The busiest people sometimes are the last to respond to questionnaires, and yet they often furnish the most valuable results." Therefore, we hope that you plan to join in making the study of the utmost value to all of us. Your experience and your opinions are important to this study.

May the coming year be a richly rewarding one for you, both personally, and professionally.

Sincerely yours,

James J. Kortendick

(Rev.) James J. Kortendick, S.S., Ph.D.
Project Director and Head of the Department

Betty Stone

(Mrs.) Elizabeth W. Stone, Ph.D., Associate Project Director and Assistant to the Head of the Department

P.S. A copy of the questionnaire is enclosed for your convenience.

APPENDIX D: INVENTORY OF PROFESSIONAL PERSONNEL AND COVER LETTERS SENT TO FEDERAL LIBRARIES

FEDERAL LIBRARY COMMITTEE
LIBRARY OF CONGRESS
WASHINGTON, D. C. 20540

October 11, 1968

To: The Directors of Federal Libraries and Information Centers

From: Paul Howard, Executive Secretary of the Federal Library Committee

The Federal Library Committee gives full support to the research project, undertaken in its behalf by the Department of Library Science of The Catholic University of America, and urges your cooperation by supplying the needed information requested at this time. The list of professional personnel in the Librarian 1410 series, grades 9 to 14 inclusive and of professional librarians, grades 9 to 14 inclusive, in the 1412 series, is not only essential data for the research project itself, but will also be made available to the Federal Library Committee as a partial basis for a needed register of all Federal librarians and information specialists.

Appropriate questionnaires, approved by the Federal Library Committee, will be sent to a sample of the total number of professional personnel. Full assurance is given of the confidentiality of the information secured by the questionnaire.

In the name of the Federal Library Committee, I enlist your cooperation and ask that the list of your staff with position title and grade be returned within a week of receipt of this joint letter.

Sincerely,

Paul Howard

Paul Howard
Executive Secretary of the
Federal Library Committee

PH:bbk

PERMANENT MEMBERSHIP—Library of Congress (Librarian of Congress, Chairman), National Agricultural Library, National Library of Medicine, Department of State, Department of the Treasury, Department of Defense, Department of Justice, Post Office Department, Department of the Interior, Department of Commerce, Department of Labor, Department of Health, Education, and Welfare, Department of Housing and Urban Development, Department of Transportation.

ROTATING MEMBERSHIP, 1967-69—Civil Service Commission, General Services Administration, National Science Foundation, Smithsonian Institution, United States Information Agency, Veterans Administration.

OBSERVERS—Bureau of the Budget and Office of Science and Technology of the Executive Office of the President, Library of Congress, Division of Library Services of the Office of Education of the Department of Health, Education, and Welfare.

The Catholic University of America

Washington, D. C. 20017

DEPARTMENT OF LIBRARY SCIENCE

October 11, 1968

Dear Colleague:

The research project referred to by Mr. Howard is entitled "Post-Master's Education for Middle and Upper-Level Personnel in Library and Information Centers".

The purpose of the study is to accelerate the quantity, quality and pertinency of training on the post-master's level in library schools through a program of research and development involving three phases, covering a three and one-half year period.

The first phase of eighteen months involves an assessment of the educational and training needs of middle and upper-level personnel (grades 9-14) in libraries and information centers based initially on a survey of the Federal library complex.

The second and third phases involve the development, testing and evaluation of models for pertinent courses and seminars to supplement and complement the master's curriculum toward the ultimate integration of these models with the master's, the sixth-year certificate of a specialization in librarianship, and finally, a doctoral program.

Three steps in the first phase involve the Federal libraries: (1) the development of a complete list of professional personnel (grades 9 to 14 inclusive in the 1410 series) and a list of professional librarians (grades 9-14 in the 1412 series) from which will be drawn the sample for, (2) a questionnaire survey; and, finally, (3) a series of interviews of selected supervisory personnel. The last two steps will focus on collecting relevant data from the field about present and future job requirements in relation to unmet educational needs of the individual in his job situation and career development. These data will, it is hoped, be a meaningful contribution to curriculum construction.

As you can see, the list of your professional staff is of great importance to this study. Enclosed is a form, which may be a convenience for you. We are primarily interested in those staff members who have a graduate degree in librarianship (i.e., the MLS or the older graduate BLS degree). If this latter information can be supplied by you, it will be a great additional service to the project which we all hope will result in benefits to Federal librarianship.

Please return in a week or at your earliest convenience.

Cordially yours,

James J. Kortendick

(Rev.) James J. Kortendick, S.S., Ph.D.
Head of the Department and
Director of the Research Project

JJK:sb

INVENTORY OF PROFESSIONAL PERSONNEL OF FEDERAL LIBRARIES AND INFORMATION CENTERS

as partial data needed for a Research Project entitled

Post-Master's Education for Middle and Upper-Level Personnel in Library and Information Centers

funded by USOE under Provisions of Title IIb of the Higher Education Act, 1965

The Catholic University of America
The Department of Library Science
The Reverend James J. Kortendick, S.S., Director of Project

The compilation of information concerning the professional personnel of the Federal library community is being undertaken with the cooperation of the Federal Library Committee, Paul Howard, Executive Secretary.

Name of Library or Information Center _____

_____

Address of Library or Information Center _____

_____

Director or Head of Library or Information Center _____

_____

Names of Librarians (and Address if other than above)	Position Title	Graduate Degree in L.S.	Grade (GS 9-14)	Series (1410 or 1412)

Use attached page as additional space for information is needed.
Thank You.

APPENDIX E: FOLLOW-UP LETTER TO INVENTORY OF PROFESSIONAL PERSONNEL SENT TO FEDERAL LIBRARIES

The Catholic University of America

Washington, D. C. 20017

DEPARTMENT OF LIBRARY SCIENCE

November 6, 1968

Dear Colleague:

You will be interested in knowing that the lists of Federal librarians, which we requested for use in the research project we are conducting on Post-MLS Education for Middle and Upper-Level Personnel in Federal Libraries and Information Centers, have been coming in at a goodly rate with every mail.

In spite of this, however, out of the total number of Federal libraries on our list, we have only received replies from about sixty per cent. If the population from which we draw the sample is to be a truly representative one, we need a reply from you.

It has occurred to us that you may not have sent back the form because you may have no library personnel in grades GS-9 through GS-14 with a graduate degree in library science (the scope of our study). However, in order to check your library off our list and know that it has been accounted for, will you please return the form with a note: "Does not apply to this library because...." In other words, we would like to have the forms back with some response from every Federal library to which we have sent a questionnaire.

If your library has been addressed incorrectly, or if you received two sets of forms, we would appreciate your noting such facts as these on the forms when you return them.

In case you have mislaid your copy of the form and the letters of explanation that accompanied them, these documents are attached.

There is still time to hear from you. I hope that you will forward your form by return mail and help make this study of Federal librarians and their needs one of value to all of us.

All best wishes and many thanks.

Cordially yours,

James J. Kortendick

(Rev.) James J. Kortendick, S.S., Ph.D.
Head of the Department and
Director of the Research Project

Enclosures
JJK:sb

APPENDIX F
OUTLINE OF INTERVIEW SCHEDULE WITH TOP-LEVEL LIBRARY ADMINISTRATORS

SAMPLES OF THE TYPE OF QUESTIONS USED.

1. What competencies do you feel the librarian (fill in type of position about which the interviewee is being queried) needs over and above the formal training that is provided in the typical library school program for the master's degree in order to do his job effectively?

2. What kind of relevant course work do you think might meet the needs for these competencies?

3. If these relevant courses were available in a post-MLS program, would you permit a person in this position to attend classes:
   a. on a part-time basis?
   b. on a full-time basis?
   c. on his own time only?

4. What financial provisions could you provide for the librarians to take relevant courses under the Manpower Training Act or other government legislation?

5. In general, what is your attitude regarding the value of formal course work toward improving performance on the job?

6. How much of the knowledge required to perform the chief librarian's job or the assistant chief librarian's job is "specialized"? In other words, could the librarian learn how to administer the library more effectively by going to a school of business or public administration, or should such advanced training be more advantageously located in the graduate library school which would work into its program interdisciplinary relationships?

7. If the program were based in the library school, do you have recommendations to make concerning the form of the education? (This would include such matters as teaching methods, use of multi-media, use of an interdisciplinary approach, use of a practical approach vs. a theoretical one).

8. What do you feel will be the impact of automation on the job skills and competencies needed for this particular position in the next few years?

9. What type of knowledge or skills in automation do you feel should be mastered for this position?

10. How do you think competence in necessary know-how related to automation can best be achieved?
    a. In library school?
    b. In courses in other departments in the university?
    c. In IBM or other computer courses offered by the manufacturer?
    d. In short-term workshops or institutes?
    e. Through on-the-job training
    f. Other ways?
    g. Combination of ways?

11. What courses should be offered in automation at the post-master's level? Specify your idea of what the content of each should cover.

12. How do you feel about the importance of personal traits as related to this particular type of position? Is there anything that can be done about personal traits or characteristics relative to this type of position at a post-master's level?

13. What terminal behavior patterns would you hope the individual would have at the completion of a post-MLS program?

(Workshop Format)

14. How do you value a short-term workshop or institute as a form of continuing education? Who, within the profession, should take the responsibility for such programs?

APPENDIX G: QUESTIONNAIRE TO DETERMINE INTERVIEWEES' ATTITUDES TOWARD POST-MLS PROGRAMS

Generally how do you view the development of post-MLS programs in library schools? [Please indicate your degree of agreement by checking the boxes to the left.]

Strongly Agree	Mildly Agree	Disagree	No Opinion	
[ ]	[ ]	[ ]	[ ]	I think certain schools should specialize in certain areas.
[ ]	[ ]	[ ]	[ ]	I think that every school having a post-MLS program should try to meet the varied needs of all who wish to come back.
[ ]	[ ]	[ ]		I consider such a program important enough that I would let full-time employees attend on a part-time basis.
[ ]	[ ]	[ ]	[ ]	I would be interested, myself, in going back for certain types of training. If checked, please specify type of training: _____
[ ]	[ ]	[ ]	[ ]	I would expect certain terminal behavior patterns from persons who come back after participating in a post-MLS program. If checked, indicate what they would be: _____
[ ]	[ ]	[ ]	[ ]	I think the maximum advantages from a post-MLS program will be obtained only if the person involved has had some experience in a job following the MLS. If checked, how many years should ideally elapse between the MLS and the Post-MLS study? _____
[ ]	[ ]	[ ]	[ ]	I feel the school should offer courses in the library science department, but that they should be highly interdisciplinary in their approach.
[ ]	[ ]	[ ]	[ ]	I feel the school should not try to offer courses relating to course work in other displines, but rather the employee should return to the campus to study in other departments.
[ ]	[ ]	[ ]	[ ]	I feel that updating is done best in the job situation rather than by returning to library school.
[ ]	[ ]	[ ]	[ ]	Courses and training aren't in my mind the answer. Understanding and a developmental type of leadership on the job are much more important for the development of the individual in his job.

APPENDIX H
DIRECTIONS FOR THE CARD SORT

Each of the cards in the deck of cards you have been given lists a course which might be helpful to a graduate librarian in the successful performance of his professional responsibilities.

The cards are to be sorted according to the extent to which you feel these courses may represent training needs of the job of _____ (type of position about which respondent is being questioned) in your library. You need not be concerned with logical order or prerequisite knowledge.

To do this the most readily, the following procedures would be useful:

a. Read through all the cards to become familiar with the material,

b. Sort the cards into three groups:

1. Should Have this Course
One group of cards which describe knowledges and skills that are most essential for performance in this job.

2. Could Use this Course
One group of cards which describe knowledges and skills which would be useful, but not essential for successful performance in the position.

3. Don't Really Need this Course
One group of cards which describe knowledges and skills which are not needed for the successful performance of this job.

When you have the cards in these three groups, will you please rank those in group 1 (Should Have) in the order in which you think they are most essential, with the one you rank first on top of the pile, the second next, etc.

And finally, please take the stack of cards in group 3 and further toss them into two piles:

a. One which you feel the person in this position does not need to know the content and the skills of for the job, and

b. One in which he needs to know the content and skills implied, but you feel it would be better to obtain these in on-the-job training than by going out to a university setting.

CARD SORT REPORTING FORM

ID _____

Should Have	Could Use	Don't Really Need	
		Don't Need At All	Can Get On the Job

APPENDIX I
INTERVIEW INFORMATION AND EVALUATION FORM

A. Date of interview _____

B. Interviewer _____

C. Name and position of Respondent _____

_____

D. Location of Interview _____

_____

E. Length of Interview _____

F. Were any other persons present at the interview? [ ]Yes; [ ]No
(Give title and name if yes) _____

G. Sex of Respondent: [ ] Male; [ ] Female

H. Preparation for interview:

1. [ ] Letter sent
2. [ ] Questionnaire sent with some interpretation
3. [ ] Respondent phoned before face-to-face interview
   [ ] Number of calls
4. [ ] Discussion of the project in group situation with respondent before interview (such as Federal Library Committee meeting, pilot group situation, etc.)
   If yes, name of group setting _____
   _____

I. Respondent's attitude and degree of cooperation was:

1. [ ] Good
2. [ ] Fair
3. [ ] Poor

J. How well did the respondent seem to understand the purposes and the objectives of the study?

1. [ ] Good understanding
2. [ ] Fair understanding
3. [ ] Questionable amount of understanding

K. Evaluation of the interview according to the following criteria:

	Very Satisfactory	Satisfactory	Questionable or Less than Adequate
1. Respondent's participation	[ ]	[ ]	[ ]
2. Validity of data obtained	[ ]	[ ]	[ ]
3. Relevance of data to research project	[ ]	[ ]	[ ]
4. Specificity of data	[ ]	[ ]	[ ]
5. Clarity of data presented	[ ]	[ ]	[ ]
6. Coverage of interview items	[ ]	[ ]	[ ]

L. Over-all evaluation of the quality of the data obtained:

1. [ ] Good quality [ ] Very helpful
2. [ ] Fair quality [ ] Helpful
3. [ ] Questionable quality [ ] Little help

M. Additional remarks that might shed light on the quality or quantity of the data obtained: (Use back of sheet if necessary). Include any observations about built-in prejudices of the respondent which the interviewer thinks might have influenced his answer to the interview schedule.

N. Would this person be helpful later to build classes?

O. To make special presentations?

P. What are the areas of his special interest?

Q. What are the areas in which he would seem most qualified to make a contribution to our program?

APPENDIX J

APPENDIX TABLES

APPENDIX TABLE I
DISTRIBUTION OF RESPONDENTS BY TYPE OF POSITION AND GRADE LEVEL ACCORDING TO GEOGRAPHICAL REGIONS: 1968

States and Regions Where Respondents Are Employed	Type of Position		Grade Level			Total	
	Adminis-trative	Non-Adminis-trative	9	10, 11	12-14	No.	%
New England							
Maine	0	0	0	0	0	0	0.00
New Hampshire	0	0	0	0	0	0	0.00
Massachusetts	2	0	0	1	1	2	0.55
Rhode Island	1	2	2	0	1	3	0.82
Connecticut	0	1	1	0	0	1	0.27
Vermont	0	0	0	0	0	0	0.00
Subtotal	3	3	3	1	2	6	1.64
Middle Atlantic							
New York	12	2	4	4	6	14	3.84
New Jersey	4	0	3	0	1	4	1.10
Pennsylvania	5	1	1	4	1	6	1.64
Subtotal	21	3	8	8	8	24	6.58
East North Central							
Ohio	9	2	3	6	2	11	3.01
Indiana	0	0	0	0	0	0	0.00
Illinois	4	0	1	2	1	4	1.10
Michigan	2	0	1	1	0	2	0.55
Wisconsin	3	0	1	2	0	3	0.82
Subtotal	18	2	6	11	3	20	5.48
West North Central							
Minnesota	2	0	0	1	1	2	0.55
Iowa	1	0	0	1	0	1	0.27
North Dakota	1	0	1	0	0	1	0.27
South Dakota	0	0	0	0	0	0	0.00
Nebraska	1	0	1	0	0	1	0.27
Kansas	0	0	0	0	0	0	0.00
Missouri	3	0	1	1	1	3	0.82
Subtotal	8	0	3	3	2	8	2.18

Distribution of Respondents by Type of Position and Grade Level According to Geographical Regions: 1968

States and Regions Where Respondents Are Employed	Type of Position		Grade Level			Total	
	Administrative	Non-Administrative	9	10, 11	12-14	No.	%
South Atlantic							
Delaware	0	0	0	0	0	0	0.00
Maryland	12	8	7	5	8	20	5.48
Virginia	10	1	4	4	3	11	3.01
West Virginia	1	0	0	1	0	1	0.27
North Carolina	1	0	0	0	1	1	0.27
South Carolina	1	0	1	0	0	1	0.27
Georgia	4	1	2	2	1	5	1.37
Florida	6	0	5	0	1	6	1.64
Subtotal	35	10	19	12	14	45	12.31
District of Columbia							
Library of Congress	14	59	21	21	31	73	20.00
Other	44	40	14	43	27	84	23.01
Subtotal	58	99	35	64	58	157	43.01
East South Central							
Kentucky	1	0	0	1	0	1	0.27
Tennessee	3	0	1	1	1	3	0.82
Alabama	5	5	4	4	2	10	2.74
Mississippi	0	0	0	0	0	0	0.00
Subtotal	9	5	5	6	3	14	3.83
West South Central							
Arkansas	0	1	1	0	0	1	0.27
Louisiana	4	0	3	1	0	4	1.10
Oklahoma	4	0	2	1	1	4	1.10
Texas	10	1	5	3	3	11	3.01
Subtotal	18	2	11	5	4	20	5.48
Mountain							
Montana	0	0	0	0	0	0	0.00
Idaho	0	0	0	0	0	0	0.00
Wyoming	1	0	1	0	0	1	0.27
Colorado	11	3	5	5	4	14	3.84

Distribution of Respondents by Type of Position and Grade Level According to Geographical Regions: 1968

States and Regions Where Respondents Are Employed	Type of Position		Grade Level			Total	
	Administrative	Non-Administrative	9	10, 11	12-14	No.	%
Mountain continued							
New Mexico	2	0	0	2	0	2	0.55
Arizona	1	0	0	1	0	1	0.27
Utah	0	0	0	0	0	0	0.00
Nevada	0	0	0	0	0	0	0.00
Subtotal	15	3	6	8	4	18	4.93
Pacific							
Washington	1	0	0	1	0	1	0.27
Oregon	1	0	0	0	1	1	0.27
California	15	8	6	10	7	23	6.30
Alaska	0	0	0	0	0	0	0.00
Hawaii	1	0	0	1	0	1	0.27
Subtotal	18	8	6	12	8	26	7.11
APO							
Atlantic	11	0	7	3	1	11	3.01
Pacific	16	0	6	7	3	16	4.38
Subtotal	27	0	13	10	4	27	7.39
TOTAL	230	135	115	140	110	365	100.00

APPENDIX TABLE II

PROFILE OF ORGANIZATIONAL MOBILITY: YEARS IN THE FEDERAL GOVERNMENT: YEARS IN PRESENT POSITION, AND NUMBER OF LIBRARIES IN WHICH RESPONDENTS HAVE WORKED BY TYPE OF POSITION, GRADE LEVEL, AND AGENCY 1968

Category	Average Number of Years Worked for Federal Government	Average Number of Years in Present Position	Average number of libraries in which the respondents have worked inside and outside the Federal government		
			Inside	Outside	Combined
Grades					
GS 9(N=115)	7.09	3.03	1.96	1.30	3.26
GS 10, 11(N=140)	12.26	5.63	2.06	1.31	3.37
GS 12-14(N=110)	13.53	5.45	2.10	1.55	3.65
Type of Position					
Administrative (N=230)	13.04	5.90	2.43	1.60	4.03
Non-Administrative (N=135)	7.34	3.37	1.37	0.99	2.36
Agencies					
Library of Congress (N=73)	5.92	1.99	1.18	0.78	1.96
Army (N=52)	13.90	5.25	2.98	1.90	4.88
Navy (N=28)	14.96	6.44	2.48	1.89	4.37
Air Force (N=51)	10.60	4.82	2.55	1.65	4.20
Veterans Administration (N=36)	16.72	10.58	2.14	1.42	3.66
D.C. Public(N=14)	8.21	7.93	1.50	0.64	2.14
Health, Education, and Welfare (N=21)	11.82	5.59	1.82	1.76	3.58
Agriculture(N=15)	9.73	5.33	1.13	1.40	2.53
Other Agencies(N=75)	11.52	3.58	2.08	1.17	3.25
All Together (N=365)	11.00	4.92	2.04	1.38	3.42

APPENDIX TABLE III
DISTRIBUTION OF REASONS FOR LEAVING LIBRARY WORK BY TYPE OF POSITION AND GRADE LEVEL:1968

Reasons for Leaving	Type of Position				Grade Level						Total	
	Administrative		Non-Administrative		9		10, 11		12-14			
	No. (N=230)	%	No. (N=135)	%	No. (N=115)	%	No. (N=140)	%	No. (N=110)	%	No. (N=365)	%
For marriage or family	19	32.76	9	45.00	12	52.17	15	44.12	1	4.76	28	35.90
To obtain further education	16	27.59	4	20.00	8	34.78	4	11.76	8	38.10	20	25.64
To work in another field	10	17.24	4	20.00	1	4.35	7	20.59	6	28.57	14	17.95
For military service	10	17.24	0	0.00	2	8.70	3	8.82	5	23.81	10	12.82
To travel	1	1.72	2	10.00	0	0.00	2	5.88	1	4.76	3	3.85
Other Reasons	4	7.89	3	15.00	1	4.35	5	14.71	1	4.76	7	8.97
Total[2]	58	25.22	20	14.81	23	20.00	34	24.29	21	19.09	78	21.37

[1]The table lists the 82 reasons listed by the 78 respondents who gave answers to this question. The percentages are calculated using the total in each category as the base.

[2]Although some respondents gave multiple reasons for leaving, only one per person is added into the total.

APPENDIX TABLE IV

FREQUENCY COUNT OF RESPONDENTS LISTING CHIEF OCCUPATIONS PRIOR TO ENTERING PROFESSIONAL LIBRARIANSHIP BY TYPE OF POSITION AND GRADE LEVEL: 1968

Occupation	First Prior Occupation						Second Prior Occupation					
	Type of Position		Grade Level			Total	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14		Administrative	Non-Administrative	9	10, 11	12-14	
Teaching												
Elementary grades	7	2	3	3	3	9	1	0	1	0	0	1
Junior and senior high school												
Humanities	31	14	18	17	10	45	0	0	0	0	0	0
Sciences	4	2	3	1	2	6	0	1	1	0	0	1
Subtotal	35	16	21	18	12	51	0	1	1	0	0	1
College												
Library Science	2	1	0	0	3	3	1	0	0	0	1	1
All others	5	2	1	3	3	7	1	3	2	2	0	4
Subtotal	7	3	1	3	6	10	2	3	2	2	1	5
Unspecified or more than one category	15	4	7	6	6	19	2	1	1	1	1	3
Teachers -- Subtotal	64	25	32	30	27	89	5	5	5	3	2	10
Other Occupations												
Accountant, bookkeeper	1	3	2	1	1	4	2	0	2	0	0	2
Administrator, supervisor	6	1	2	4	1	7	1	1	1	0	1	2
Book selling, publishing	1	0	1	0	0	1	2	1	1	1	1	3
Business	3	2	3	2	0	5	0	1	0	0	1	1
City planning and related work	1	1	1	1	0	2	0	0	0	0	0	0
Economist, economic analyst	1	2	0	1	2	3	0	0	0	0	0	0
Engineer, architect, draftsman	3	2	1	1	3	5	0	0	0	0	0	0
Military officer, unspecified	2	1	2	1	0	3	1	1	1	0	1	2
Minister, missionary	0	1	1	0	0	1	1	0	1	0	0	1
Personnel work	3	3	1	4	1	6	2	1	1	1	1	3
Recreation work	2	3	4	1	0	5	1	1	1	1	0	2
Research assistant	1	3	1	2	1	4	0	0	0	0	0	0
Scientific (chemistry, physics, biology, etc., lab assistants)	4	3	1	1	5	7	1	1	0	1	1	2
Statistical analyst	2	1	0	1	2	3	0	0	0	0	0	0
Systems analyst	1	0	0	1	0	1	0	0	0	0	0	0
Translator	1	0	1	0	0	1	0	1	0	1	0	1
Weather forecaster	1	1	1	0	1	2	0	0	0	0	0	0
Writing, editing, proofreading, journalism	10	3	3	5	5	13	5	0	1	2	2	5
Miscellaneous	4	4	3	2	3	8	7	1	0	6	2	8
Other Occupations -- Subtotal	47	34	28	28	25	81	23	9	9	13	10	32
TOTAL	111	59	60	58	52	170	28	14	14	16	12	42

APPENDIX TABLE V

DISTRIBUTION OF ALL 365 RESPONDENTS ACCORDING TO ESTIMATED MINIMUM LIBRARY AND INFORMATION CENTER EXPERIENCE REQUIRED TO PERFORM PRESENT JOB: 1968

Type of Position Title	No Experience Needed	Number of Years Needed								Not Answered	Total
		1	2	3	4	5	6	7	Over 7		
Administrators											
Head of Library	2	6	11	15	6	16	6	3	9	17	91
Head of Department or Division	1	3	5	9	9	9	4	3	10	13	66
Assistant or Associate Head	2	3	3	4	0	4	1	0	4	4	25
Head of Regional or Field Library	1	7	7	3	1	1	0	1	1	0	22
Head of Branch	1	4	0	4	1	0	0	0	1	2	13
Other	1	0	1	1	1	4	0	1	2	2	13
Subtotal	8	23	27	36	18	34	11	8	27	38	230
Non-Administrators											
Cataloging	11	9	4	6	3	4	0	0	1	5	43
Reference	3	9	7	7	1	4	0	0	2	5	38
Bibliography	2	3	3	1	1	2	0	0	0	1	13
Classification	0	3	0	0	0	1	0	0	1	1	6
Coordinator	0	0	1	0	1	1	1	0	0	1	5
Systems Analysis	1	0	0	0	0	1	0	0	0	2	4
Acquisitions	1	0	1	1	0	0	0	0	0	0	3
Documents and/or Reports	1	0	1	0	0	0	0	0	0	1	3
Subject Specialty	0	1	0	0	1	0	0	0	0	1	3
Technical Services	1	0	0	0	0	0	0	0	0	2	3
Other	4	0	3	2	2	0	0	0	1	2	14
Subtotal	24	25	20	17	9	13	1	0	5	21	135
TOTAL	32	48	47	53	27	47	12	8	32	59	365
PERCENTAGE	8.77	13.15	12.88	14.52	7.40	12.88	3.29	2.19	8.77	16.16	100.00

APPENDIX TABLE VI
APPLICABILITY OF JOB INVENTORY: FREQUENCY OF JOB ITEMS CHECKED BY RESPONDENTS BY TYPE OF POSITION:1968

Number of Job Items Checked	Frequency by Respondent								
	Specialized Library Functions			Administrative Functions			All Functions Together		
	Administrative	Non-Administrative	Total	Administrative	Non-Administrative	Total	Administrative	Non-Administrative	Total
0	17	9	26	3	53	56	0	0	0
1	5	8	13	1	10	11	0	3	3
2	2	8	10	1	4	5	0	6	6
3	3	9	12	1	11	12	0	4	4
4	5	11	16	1	2	3	0	5	5
5	6	9	15	2	6	8	0	4	4
6	6	7	13	6	4	10	0	9	9
7	4	6	10	3	2	5	0	9	9
8	6	7	13	3	3	6	1	7	8
9	8	7	15	2	2	4	0	1	1
10	7	5	12	3	5	8	0	5	5
11	7	6	13	3	2	5	0	5	5
12	5	3	8	7	3	10	1	4	5
13	11	2	13	5	3	8	1	4	5
14	6	5	11	4	5	9	3	7	10
15	10	4	14	4	4	8	2	3	5
16	1	4	5	2	1	3	1	5	6
17	4	2	6	4	2	6	2	4	6
18	9	4	13	0	0	0	5	3	8
19	9	1	10	2	0	2	2	1	3
20	1	4	5	5	3	8	4	5	9
21	3	0	3	2	0	2	4	1	5
22	3	3	6	1	0	1	3	1	4
23	6	3	9	4	1	5	1	2	3
24	3	1	4	3	0	3	0	5	5
25	2	0	2	3	1	4	4	2	6
26	4	2	6	4	0	4	1	4	5
27	3	1	4	2	1	3	2	5	7
28	3	0	3	6	0	6	1	2	3
29	7	0	7	1	1	2	3	2	5
30	2	2	4	2	0	2	1	0	1
31	1	1	2	3	0	3	0	0	0
32	4	1	5	2	1	3	6	1	7
33	5	0	5	3	0	3	4	1	5
34	3	0	3	1	2	3	0	1	1
35	1	0	1	4	0	4	3	0	3
36	4	0	4	0	0	0	0	0	0
37	0	0	0	1	0	1	2	0	2
38	3	0	3	5	0	5	5	1	6
39	2	0	2	1	0	1	3	1	4
40 and above	39	0	39	120	3	123	165	12	177
Mean	22.72	9.99	17.99	42.72	6.59	29.36	65.44	16.58	47.35
Median	18.00	8.09	13.00	41.00	3.00	20.00	59.00	14.00	38.00
Standard Deviation	19.41	9.56	17.59	26.78	9.56	28.10	39.95	15.48	41.15
Range	0-105	0- 77	0-105	0-109	0- 45	0-109	8-192	1-107	1-192

APPENDIX TABLE VII
APPLICABILITY OF JOB INVENTORY: FREQUENCY OF JOB ITEMS CHECKED BY RESPONDENTS BY GRADE LEVEL: 1968

Number of Job Items Checked	Frequency by Respondent											
	Specialized Library Functions				Administrative Functions				All Functions Together			
	Grade			Total	Grade			Total	Grade			Total
	9	10, 11	12-14		9	10, 11	12-14		9	10, 11	12-14	
0	2	6	18	26	34	18	4	56	0	0	0	0
1	6	2	5	13	5	4	2	11	2	0	1	3
2	0	5	5	10	2	2	1	5	5	1	0	6
3	2	4	6	12	4	7	1	12	0	4	0	4
4	4	5	7	16	1	2	0	3	2	2	1	5
5	6	4	5	15	4	4	0	8	2	2	0	4
6	5	3	5	13	7	2	1	10	7	2	0	9
7	4	4	2	10	2	1	2	5	4	3	2	9
8	2	8	3	13	4	2	0	6	3	4	1	8
9	4	5	6	15	1	2	1	4	0	1	0	1
10	5	3	4	12	2	3	3	8	4	0	1	5
11	3	3	7	13	1	2	2	5	3	1	1	5
12	2	3	3	8	2	6	2	10	3	2	0	5
13	4	6	3	13	0	4	4	8	1	3	1	5
14	6	4	1	11	1	3	5	9	2	4	4	10
15	3	6	5	14	0	4	4	8	0	3	2	5
16	2	3	0	5	0	2	1	3	2	2	2	6
17	1	3	2	6	0	4	2	6	3	1	2	6
18	5	7	1	13	0	0	0	0	4	2	2	8
19	3	2	5	10	1	0	1	2	3	0	0	3
20	1	4	0	5	3	4	1	8	2	3	4	9
21	2	1	0	3	0	2	0	2	2	1	2	5
22	1	3	2	6	0	1	0	1	1	1	2	4
23	3	4	2	9	2	3	0	5	1	0	2	3
24	2	2	0	4	1	1	1	3	2	2	1	5
25	0	2	0	2	0	3	1	4	1	3	2	6
26	3	1	2	6	2	1	1	4	0	4	1	5
27	1	1	2	4	0	2	1	3	1	5	1	7
28	0	2	1	3	1	1	4	6	0	1	2	3
29	2	3	2	7	0	2	0	2	1	4	0	5
30	1	3	0	4	1	0	1	2	0	1	0	1
31	2	0	0	2	0	2	1	3	0	0	0	0
32	0	4	1	5	1	1	1	3	3	3	1	7
33	2	1	2	5	0	2	1	3	2	1	2	5
34	1	1	1	3	1	1	1	3	0	1	0	1
35	0	1	0	1	1	0	3	4	0	2	1	3
36	2	2	0	4	0	0	0	0	0	0	0	0
37	0	0	0	0	0	1	0	1	0	0	2	2
38	2	1	0	3	2	1	2	5	1	2	3	6
39	1	1	0	2	0	0	1	1	2	2	0	4
40 and above	20	17	2	39	29	40	54	123	46	67	63	176
Mean	23.08	19.31	10.48	17.99	30.59	27.39	38.60	29.36	53.67	46.57	49.08	47.35
Median	15	15	8	13	7	17	38	20	24	37	51	38
Standard Deviation	21.69	15.72	10.67	17.59	18.56	27.02	23.85	28.10	47.59	40.65	32.61	41.15
Range	0-105	0- 77	0- 60	0-105	0-109	0- 99	0-103	0-109	1-192	2-153	1-125	1-192

APPENDIX TABLE VIII
NUMBER OF RESPONDENTS ANSWERING JOB INVENTORY ITEMS ACCORDING TO TIME AND IMPORTANCE APPLICABILITY:1968

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
1.	Supervise the preparation of all abstracts and/or abstract services	1	2	11	1	4	9	14		3.84
2.	Prepare descriptive abstracts	1	4	11	1	7	8	16		4.38
3.	Write abstracts of content of materials	1	2	11	1	5	8	14		3.84
4.	Evaluate material and state critique in an annotation	1	5	14	1	10	9	20		5.48
5.	Make extracts of materials	0	1	8	0	2	7	9		2.47
6.	Provide abstracting services through special announcement devices	0	2	4	2	1	3	6		1.64
7.	Other: Abstracting	0	1	2	0	2	1	3		0.82
8.	Am responsible for the over-all acquisitions program	36	73	12	64	52	4	121	(43)	33.15
9.	Establish policies for determining acquisitions	10	30	44	28	40	15	84		23.01
10.	Establish ordering and checking systems for books	11	25	39	16	37	23	76		20.82
11.	Establish ordering and checking systems for reports and/or documents	7	13	36	13	22	21	56		15.34
12.	Establish ordering and checking systems for serials	11	24	35	15	37	19	71		19.45
13.	Procure books	15	30	24	27	31	13	71		19.45
14.	Procure non-book materials	9	20	39	16	29	25	70		19.18
15.	Am responsible for acquisitions received by donation or exchange	11	20	51	16	20	46	82		22.47
16.	Establish interlibrary loan system	13	26	39	22	32	24	78		21.37
17.	Keep financial records and/or accounts for acquisitions	10	27	20	21	21	14	57		15.62
18.	Am accountable for keeping record of funds expended	10	24	28	24	22	14	62		16.99
19.	Procure materials for the library's document depository	3	2	16	4	6	11	21		5.75
20.	Appraise highly specialized and/or rare materials	4	11	21	6	13	17	36		9.86
21.	Publish new-acquisitions bulletin	7	6	42	11	16	27	55		15.07
22.	Other: Acquisitions	0	2	3	0	2	3	5		1.37
23.	Am responsible for the over-all compilation of bibliographies	24	21	43	33	30	25	88		24.11
24.	Maintain continuing bibliographies	18	15	21	20	23	12	55		15.07
25.	Compile bibliographies in specialized subject areas	24	39	32	28	45	22	95		26.03
26.	Produce demand bibliographies upon request	20	34	54	28	46	35	109		29.86
27.	Prepare bibliographies using automated methods	6	3	10	6	5	8	19		5.21
28.	Other: Bibliography	1	1	2	1	1	2	4		1.10
29.	Have over-all responsibility for the cataloging program	38	49	29	60	41	17	118	(44)	32.33
30.	Have over-all responsibility for the classification program	31	38	27	45	34	19	98		26.85
31.	Establish cataloging policies and procedures	15	32	39	35	36	16	87		23.84
32.	Establish classification policies and procedures	12	28	41	31	27	23	81		22.19
33.	Expand, develop, and improve classification schemes	6	11	42	13	19	27	59		16.16
34.	Develop terminology control schemes	2	9	23	7	12	15	34		9.32
35.	Classify and/or reclassify books	33	30	23	42	30	16	88		24.11
36.	Classify and/or reclassify non-book materials	10	19	40	15	23	32	70		19.18
37.	Expand, develop, and improve lists of subject headings	7	19	49	19	25	31	75		20.55

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
38.	Do descriptive cataloging of books	33	21	26	37	23	21	81		22.19
39.	Do descriptive cataloging of non-book materials	12	11	31	14	14	27	55		15.07
40.	Do subject cataloging of books	29	28	26	38	27	19	84		23.01
41.	Do subject cataloging of non-book materials	12	17	29	17	18	22	58		15.89
42.	Work on the production of book catalogs	5	3	6	8	2	5	15		4.11
43.	Use reprography for catalog card reproduction	2	2	8	2	4	6	12		3.29
44.	Establish and revise filing rules or special codes	3	6	32	5	14	22	41		11.23
45.	Maintain cataloging records	4	23	32	8	30	22	60		16.44
46.	Revise cataloging and/or classification done by others	21	30	32	32	31	20	83		22.74
47.	Catalog and/or classify rare books	2	8	16	5	9	13	27		7.40
48.	Catalog and/or classify public documents and technical reports	10	21	22	13	22	18	53		14.52
49.	Other: Cataloging and Classification	0	2	2	0	3	1	4		1.10
50.	Have over-all responsibility for circulation system	25	45	53	44	50	29	123	(40)	33.70
51.	Develop circulation systems	6	19	22	14	21	13	48		13.15
52.	Circulate holdings on request	6	20	38	18	20	26	64		17.53
53.	Circulate holdings using an EAM-based system	0	1	2	0	1	2	3		0.82
54.	Circulate holdings using an EDP-based system	1	1	2	1	1	2	4		1.10
55.	Circulate interlibrary loan materials	8	17	43	18	20	30	68		18.63
56.	Develop procedures for providing photoduplication of materials	3	8	19	3	12	15	30		8.22
57.	Route periodicals on request	3	10	36	9	10	30	49		13.42
58.	Route pertinent clippings and ephemeral materials	1	4	28	4	10	19	33		9.04
59.	Other: Circulation	1	0	2	1	0	2	3		0.82
60.	Have over-all responsibility for clientele services	49	46	30	77	37	12	126	(35)	34.52
61.	Initiate user services	17	31	23	32	28	12	72		19.73
62.	Refer clients to sources of information	39	57	48	56	58	22	136	(26)	37.26
63.	Instruct users in reference methods and information sources	25	45	53	46	49	28	123	(40)	33.70
64.	Provide research assistance	35	54	46	61	55	21	137	(24)	37.53
65.	Plan and/or conduct orientation programs for clientele	10	20	47	23	25	30	78		21.37
66.	Compile reading lists	8	15	47	17	18	36	71		19.45
67.	Other: Clientele Services	0	0	2	0	1	2	3		0.82
68.	Supervise the preparation and/or production of all indexes	9	6	11	10	10	10	30		8.22
69.	Provide key-word-in-context indexing service	2	2	5	3	4	2	9		2.47
70.	Do concept indexing	2	4	1	2	4	1	7		1.92
71.	Do coordinated indexing	2	4	1	3	3	1	7		1.92
72.	Do citation indexing	1	3	0	1	3	0	4		1.10
73.	Do conventional indexing	4	11	12	8	14	5	27		7.40
74.	Index data for storage and retrieval	7	7	5	10	5	4	19		5.21
75.	Prepare thesauri and/or terminology control schemes	1	3	16	7	4	9	20		5.48
76.	Other: Indexing	0	0	1	0	0	1	1		0.27
77.	Have over-all responsibility for literature searching program	15	19	25	25	21	13	59		16.16

Appendix Table VIII Page 3

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
78.	Establish selective dissemination of information program	4	11	7	5	11	6	22		6.03
79.	Establish and/or maintain a field-of-interest register for users	4	6	19	9	13	7	29		7.96
80.	Match information against field-of-interest profiles	4	8	13	9	11	6	26		7.12
81.	Notify users of material that match their profiles	5	15	26	15	20	13	48		13.15
82.	Conduct retrospective searches	8	15	20	12	23	8	43		11.78
83.	Analyze and evaluate data for users	4	13	10	6	11	10	27		7.40
84.	Publish contents of selected periodicals	1	2	6	1	4	4	9		2.47
85.	Other: Literature Searching	0	1	1	1	0	1	2		0.55
86.	Give over-all supervision to the maintenance of holdings	23	57	37	41	62	14	117	(45)	32.05
87.	Maintain hardbound holdings	6	24	23	9	32	12	53		14.52
88.	Supervise binding of softbound documents	4	16	23	7	15	20	43		11.78
89.	Keep serial bindery records	2	9	22	6	10	17	33		9.04
90.	Keep non-serial bindery records	1	2	10	2	5	6	13		3.56
91.	Store material in microform	1	3	15	2	5	11	19		5.21
92.	Provide viewing and printing equipment for microforms	1	7	20	3	8	18	29		7.95
93.	Plan a program for updating material	6	20	24	13	25	12	50		13.70
94.	Weed out-of-date material by a planned program	9	35	47	19	45	26	91		24.93
95.	Other: Maintenance of Holdings	0	2	2	0	2	2	4		1.10
96.	Have over-all responsibility for the reference services provided	45	59	34	83	39	15	138	(23)	37.81
97.	Establish reference service policies	20	27	44	44	30	18	92		25.21
98.	Actively answer reference questions	61	77	47	94	68	24	186	(6)	50.96
99.	Develop and/or maintain a referral reference center	11	8	12	15	5	11	31		8.49
100.	Organize systems for quick reference	12	20	34	28	22	17	67		18.36
101.	Reference other material pertinent to information under consideration	13	17	19	21	14	14	49		13.42
102.	Other: Reference	0	1	3	2	1	1	4		1.10
103.	Am responsible for the adequacy and soundness of research activity	14	16	22	26	16	11	53		14.52
104.	Research with information	11	18	10	17	14	10	41		11.23
105.	Do information scouting using non-print sources	2	8	12	6	7	9	22		6.03
106.	Prepare analytical, evaluative state-of-the-art reports	1	2	4	2	2	3	7		1.92
107.	Other: Research	0	1	1	0	1	1	2		0.55
108.	Have over-all responsibility for operation of selection system	38	43	19	57	35	10	102		27.95
109.	Formulate policies for selection	16	36	34	39	34	14	87		23.84
110.	Allocate funds between departments, subjects, collections	3	22	28	17	29	9	53		14.52
111.	Make final decisions on selection of material for unit or subject area	19	40	22	30	31	13	83		22.74
112.	Serve as a selection official for materials purchased centrally for distribution to branch, mobile, extension or regional collection	7	17	8	12	16	5	33		9.04
113.	Identify needs of clientele	19	50	39	59	48	12	110		30.14

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
114.	Make tentative selection of material from reviews, catalogs, lists	27	52	38	45	52	19	117	(45)	32.05
115.	Prepare lists of materials needed in specific subject areas	12	17	22	21	21	8	51		13.97
116.	Decide on number of duplicate copies and on editions	7	21	44	16	25	30	72		19.73
117.	Decide on acceptability of gifts	8	19	72	18	27	54	99		27.12
118.	Select serials	8	36	39	29	36	18	83		22.74
119.	Select non-book materials	9	30	42	23	31	27	81		22.19
120.	Make recommendations on selection of materials	17	35	72	39	45	42	126	(35)	34.52
121.	Other: Selection	0	2	1	1	1	1	3		0.82
122.	Have over-all responsibility for my library's translation program	4	1	9	6	1	8	15		4.11
123.	Translate material into foreign languages	0	2	4	0	2	4	6		1.64
124.	Translate material from foreign languages into English	0	9	17	2	11	13	26		7.12
125.	Abstract and translate	0	0	4	0	0	4	4		1.10
126.	Extract and translate	0	2	2	0	2	2	4		1.10
127.	Other: Translation	0	0	2	0	0	2	2		0.55
128.	Integrate library programs with missions of parent organization	29	54	47	76	38	18	132	(31)	36.16
129.	Establish goals and objectives for the library	23	47	57	67	47	18	132	(31)	36.16
130.	Forecast new and/or changed demands for service	16	47	66	51	58	24	133	(28)	36.44
131.	Determine needed programs for the library	19	59	58	53	63	21	137	(24)	37.53
132.	Direct over-all preparation of the program budget	20	36	38	50	31	14	95		26.03
133.	Compute costs of the library's programs and/or activities	14	24	37	30	29	18	77		21.10
134.	Compare the cost and effectiveness of feasible alternatives	9	23	30	19	29	16	64		17.53
135.	Make budget request decisions	16	38	46	42	40	18	100		27.40
136.	Provide analytical studies justifying budget request decisions	13	29	37	28	34	18	80		21.92
137.	Prepare a multi-year summary tabulation of library programs in terms of their outputs, costs, and funding for at least 5 years in advance	4	7	16	12	6	11	29		7.95
138.	Negotiate with higher management about allocation of funds	15	26	49	38	32	20	90		24.66
139.	Prepare material for inclusion in policy statements	7	28	67	27	45	31	103		28.22
140.	Recommend policy changes	10	28	102	44	55	42	141	(21)	38.63
141.	Devise detailed procedures to implement general policy	20	39	47	36	48	23	107		29.32
142.	Help develop new programs and/or activities	15	60	69	45	70	31	146	(19)	40.00
143.	Provide for participation of employees in planning programs	7	18	55	23	32	25	80		21.92
144.	Use PERT as an aid in planning	2	4	9	3	6	7	16		4.38
145.	Use Operations Research methods as an aid in planning	1	4	7	1	6	6	13		3.56
146.	Plan for the installation of mechanized systems	11	15	33	12	25	24	61		16.71
147.	Identify and plan research activities	4	13	19	7	15	15	37		10.14
148.	Advise on application of research findings	4	6	16	7	9	11	27		7.40
149.	Keep informed about the latest relevant research and developments	11	33	71	32	54	31	117	(45)	32.05
150.	Other: Planning	0	0	0	0	0	0	0		0.00

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
151.	Group activities necessary to attain library's objectives	15	33	51	33	50	18	101		27.67
152.	Assign each grouping to a supervisor with authority necessary to manage it	6	23	37	25	28	13	66		18.08
153.	Allocate personnel to the various activity groupings	7	33	54	27	47	20	94		25.75
154.	Distribute material resources among the various parts of the library	3	21	26	8	24	18	50		13.70
155.	Determine line and staff authority relationships	5	23	37	21	24	21	66		18.08
156.	Prepare and/or update organization charts	4	12	60	9	22	45	76		20.82
157.	Create and/or maintain a staff manual	5	32	63	27	45	30	102		27.95
158.	Modify organizational structure to meet changes	5	25	56	21	41	24	86		23.56
159.	Organize the clerical processing of information	3	25	42	8	37	25	70		19.18
160.	Sometimes use committees to undertake line or staff functions	1	9	20	6	12	13	31		8.49
161.	Provide each department with a clear definition of results expected	3	26	25	19	26	9	54		14.79
162.	Other: Organizing	0	0	1	0	0	1	1		0.27
163.	Codify personnel philosophy, policies and procedures	9	18	19	15	18	15	48		13.15
164.	Forecast future staffing needs	10	27	75	32	46	36	114		31.23
165.	Recruit additional staff members	9	25	55	32	34	24	90		24.66
166.	Select personnel	12	30	93	55	50	35	140	(22)	38.36
167.	Use probationary period as a testing program before final appointment	7	14	57	31	22	25	78		21.37
168.	Study and implement the Civil Service Classification Standards	7	27	47	26	25	29	81		22.19
169.	Prepare position descriptions or analyses	9	48	86	40	56	46	148	(20)	39.18
170.	Develop employee orientation programs	6	25	71	31	36	36	103		28.22
171.	Determine training needs at each organizational level	5	15	47	16	27	24	67		18.36
172.	Build training programs	2	19	41	10	29	23	62		16.99
173.	Serve as an instructor in training programs	7	18	58	14	34	35	83		22.74
174.	Use some psychological approaches to training, such as sensitivity groups and/or role playing	1	8	9	7	5	6	18		4.93
175.	Arrange for personnel to go outside agency for training	2	9	58	10	23	36	69		18.90
176.	Develop and/or implement a system for career development	2	14	27	10	14	19	43		11.78
177.	Make and/or approve recommendations for promotion	6	26	100	45	54	34	133	(28)	36.44
178.	Nominate employees for awards and/or special recognition	8	17	86	35	34	43	112		30.68
179.	Make and/or approve recommendations for separation of employees	2	7	73	25	16	42	83		22.74
180.	Conduct exit interviews	0	2	33	6	8	22	36		9.86
181.	Make performance appraisals using traditional formal systems	6	28	88	27	49	46	122	(42)	33.42
182.	Make appraisals using "management by objectives" technique	1	6	9	4	7	5	16		4.38
183.	Provide a feed-back or suggestion system for employees	0	7	31	3	18	17	38		10.41
184.	Maintain adequate personnel records for all employees	1	19	53	14	33	26	73		20.00
185.	Participate in meetings with employee associations	2	7	27	6	15	15	36		9.86

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
186.	Other: Staffing	0	0	0	0	0	0	0		0.00
187.	Directly supervise and guide subordinates	72	106	49	127	80	22	229	(1)	62.74
188.	Assign jobs to subordinates	29	77	102	77	92	40	209	(2)	57.26
189.	Harmonize individual objectives with library's objectives	17	39	53	38	51	21	110		30.14
190.	Train new employees in the performance of their work	23	88	79	72	85	34	191	(5)	52.33
191.	Check the accuracy of work of subordinates	25	81	96	65	91	47	203	(3)	55.62
192.	Brief subordinates on immediate and continuing library programs	13	49	86	48	66	35	149	(18)	40.82
193.	Make decisions without consulting others	24	69	88	55	82	46	183	(7)	50.14
194.	Make decisions based on consultation with subordinates	12	69	97	41	89	49	179	(8)	49.04
195.	Give orders to initiate, modify, or stop activities	14	47	114	53	62	61	176	(9)	48.22
196.	Install operating procedures for new activities and/or programs	15	53	64	46	59	28	133	(28)	36.44
197.	Give subordinates authority to command or to act in certain areas	6	53	115	56	71	49	176	(9)	48.22
198.	Review decisions and/or proposals that are made by subordinates	10	57	95	51	69	44	164	(16)	44.93
199.	Stimulate subordinates toward superior performance and creativity	17	61	89	68	63	38	169	(13)	46.30
200.	Use "job enrichment" as a means of motivating subordinates	6	19	48	20	28	26	74		20.27
201.	Identify and develop potential in subordinates	11	47	91	61	58	32	151	(17)	41.37
202.	Counsel subordinates about their career development	9	21	82	33	40	42	115	(49)	31.51
203.	Administer discipline	7	15	104	27	43	56	126	(35)	34.52
204.	Formulate communication and express it understandably	15	50	58	15	55	24	124	(39)	33.97
205.	Use the informal organization as a means of communication	5	16	28	11	24	15	50		13.70
206.	Give prompt and full attention to all communications received	26	82	67	75	60	41	176	(9)	48.22
207.	Frame and transmit communications to support organizational objectives	22	47	46	45	46	26	117	(45)	32.05
208.	Other: Directing	0	3	2	1	3	1	5		1.37
209.	Coordinate the activities of separate groups within the library	16	28	34	31	28	22	81		22.19
210.	Exchange ideas and reach understandings through direct contact with others in the library who are not my subordinates	10	39	54	31	46	28	105		28.77
211.	Hold group meetings with subordinates	8	28	77	29	48	38	115	(49)	31.51
212.	Participate in developing inter-library cooperative networks	11	25	50	28	35	25	88		24.11
213.	Anticipate problems and prevent their occurrence through continuous interchange of information and early and direct contact of all involved	12	53	64	56	50	24	130	(33)	35.62
214.	Other: Coordinating	0	0	0	0	0	1	1		0.27
215.	Establish standards in terms of specific criteria	13	38	53	43	42	20	105		28.77
216.	Schedule activities to ensure that deadlines are met	29	54	85	76	58	35	169	(13)	46.30
217.	Assign priorities for the completion of work	17	61	92	77	53	42	172	(12)	47.12
218.	Use the budget to monitor progress of activities	5	15	38	15	18	26	59		16.16
219.	Solicit and evaluate clientele reactions to library's services	9	19	77	42	37	27	106		29.04
220.	Measure performance against standards, schedules, budgets, surveys	9	23	52	22	36	27	85		23.29

Appendix Table VIII -Page 7

Item Number	Job Item	Number of Respondents Checking Each Item						Total for Time or Importance[1] and Rank Therefrom[2]		
		TIME			IMPORTANCE					
		Most	Substantial	Least	Most	Substantial	Least	No.	Rank	%
221.	Correct the deviations from standards that are discovered	3	22	63	20	37	32	89		24.38
222.	Use statistical analysis and/or special reports as control devices	4	15	37	13	21	23	57		15.62
223.	Use systems analysis as a means of control	3	4	18	6	8	11	25		6.85
224.	Use the techniques of work simplification to correct inefficiencies	5	26	62	26	39	29	94		25.75
225.	Account for the utilization of resources and meeting of goals	6	25	28	20	25	15	60		16.44
226.	Prepare regular progress reports to higher management	13	48	65	45	50	31	126	(35)	34.52
227.	Other: Controlling	0	1	0	0	1	0	1		0.27
228.	Interpret library programs to key officials, users, special groups	33	56	75	86	50	30	166	(15)	45.48
229.	Approve material prepared for public use	7	27	44	29	27	23	79		21.64
230.	Am responsible for a publication program	7	22	22	22	18	12	52		14.25
231.	Issue news releases	7	4	29	13	16	11	40		10.96
232.	Edit drafts of reports, statements and/or technical documents	3	17	29	10	18	22	50		13.70
233.	Write articles of a professional nature	0	5	25	6	9	16	31		8.49
234.	Write or dictate at least 25 letters per week	15	19	13	15	24	9	48		13.15
235.	Negotiate with other groups in agency to get goods and/or services	10	34	35	23	40	17	80		21.92
236.	Arrange for the services of contractors and/or consultants	5	14	18	9	12	18	39		10.68
237.	Attend professional meetings and/or conferences	9	29	159	45	77	78	200	(4)	54.79
238.	Other: Representing	0	0	1	0	1	0	1		0.27
239.	Plan and justify library quarters	19	35	55	45	40	25	110		30.14
240.	Determine equipment needed and compute costs	18	39	72	43	53	34	130	(33)	35.62
241.	Procure equipment needed	12	21	39	21	31	21	73		20.00
242.	Manage the use of library space	14	48	71	43	54	37	134	(27)	36.71
243.	Manage Library's physical maintenance	8	29	54	26	34	32	92		25.21
244.	Other: Housing	1	2	0	2	1	0	3		0.82

[1]If the totals are not the same, the larger of the two was taken

[2]Ranks for the first fifty job items are given in parentheses

APPENDIX TABLE IX

JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED TIME BY TYPE OF POSITION:1968

Job Item Number	Job Item	Weighted Time Score	Rank
ADMINISTRATIVE (N=230)			
187.	Directly supervise and guide subordinates	649	1
188.	Assign jobs to subordinates	426	2
206.	Give prompt and full attention to all communications received	408	3
8.	Am responsible for the over-all acquisitions program	403	4
96.	Have over-all responsibility for the reference services provided	401	5
60.	Have over-all responsibility for clientele services	394	6
190.	Train new employees in the performance of their work	381	7
216.	Schedule activities to insure that deadlines are met	372	8
191.	Check the accuracy of work of subordinates	363	9
98.	Actively answer reference questions	359	10
228.	Interpret library programs to key officials, users, special groups	359	10
193.	Make decisions without consulting others	346	12
217.	Assign priorities for the completion of work	335	13
128.	Integrate library programs with missions of parent organization	334	14
108.	Have over-all responsibility for operation of selection system	332	15
199.	Stimulate subordinates toward superior performance and creativity	328	16
29.	Have over-all responsibility for the cataloging program	327	17
194.	Make decisions based on consultation with subordinates	313	18
131.	Determine needed programs for the library	312	19
129.	Establish goals and objectives for the library	307	20
86.	Give over-all supervision to the maintenance of holdings	302	21
50.	Have over-all responsibility for circulation system	294	22
198.	Review decisions and/or proposals that are made by subordinates	290	23
207.	Frame and transmit communications to support organizational objectives	287	24

Job Item Number	Job Item	Weighted Time Score	Rank
195.	Give orders to initiate, modify, or stop activities	286	25
197.	Give subordinates authority to command or to act in certain areas	286	25
	Mean	265.98*	
	Standard Deviation	192.50	
NON-ADMINISTRATIVE (N=135)			
98.	Actively answer reference questions	224	1
62.	Refer clients to sources of information	142	2
64.	Provide research assistance	139	3
35.	Classify and/or reclassify books	121	4
38.	Do descriptive cataloging of books	120	5
63.	Instruct users in reference methods and information sources	111	6
40.	Do subject cataloging of books	108	7
191.	Check the accuracy of work of subordinates	101	8
25.	Compile bibliographies in specialized subject areas	99	9
120.	Make recommendations on selection of materials	81	10
46.	Revise cataloging and/or classification done by others	79	11
26.	Produce demand bibliographies upon request	78	12
187.	Directly supervise and guide subordinates	78	12
190.	Train new employees in the performance of their work	77	14
48.	Catalog and/or classify public documents and technical reports	76	15
193.	Make decisions without consulting others	69	16
36.	Classify and/or reclassify non-book materials	64	17
37.	Expand, develop, and improve lists of subject headings	63	18
41.	Do subject cataloging of non-book materials	59	19
82.	Conduct retrospective searches	59	19
210.	Exchange ideas and reach understanding through direct contact with others in the library who are not my subordinates	59	19
114.	Make tentative selection of materials from reviews, catalogs, lists	57	22
101.	Reference other material pertinent to information under consideration	54	23
113.	Identify needs of clientele	52	24
188.	Assign jobs to subordinates	52	24
	Mean	37.43*	
	Standard Deviation	45.20	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE X

JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED TIME SCORE BY GRADE LEVEL:1968

Job Item Number	Job Item	Weighted Time Score	Rank
GS 9 (N=115)			
8.	Actively answer reference questions	256	1
187.	Directly supervise and guide subordinates	183	2
29.	Have over-all responsibility for the cataloging program	172	3
60.	Have over-all responsibility for clientele services	171	4
96.	Have over-all responsibility for the reference services provided	168	5
64.	Provide research assistance	165	6
62.	Refer clients to sources of information	155	7
50.	Have over-all responsibility for circulation system system	149	8
191.	Check the accuracy of work of subordinates	144	9
8.	Am responsible for the over-all acquisitions program	143	10
35.	Classify and/or reclassify books	143	10
30.	Have over-all responsibility for the classification program	139	12
114.	Make tentative selection of material from reviews, catalogs, lists	139	12
40.	Do subject cataloging of books	134	14
190.	Train new employees	134	14
188.	Assign jobs to subordinates	133	16
63.	Instruct users in reference methods and information sources	132	17
38.	Do descriptive cataloging of books	131	18
25.	Compile bibliographies in specialized subject areas	115	19
26.	Produce demand bibliographies upon request	113	20
193.	Make decisions without consulting others	113	20
206.	Give prompt and full attention to all communications received	109	22
217.	Assign priorities for the completion of work	107	23
86.	Give over-all supervision to the maintenance of holdings	106	24
	Mean	92.03*	
	Standard Deviation	62.76	
GS 10, 11 (N=140)			
187.	Directly supervise and guide subordinates	291	1
98.	Actively answer reference questions	250	2
190.	Train new employees in the performance of their work	195	3

Job Item Number	Job Item	Weighted Time Score	Rank
191.	Check the accuracy of work of subordinates	195	3
188.	Assign jobs to subordinates	181	5
96.	Have over-all responsibility for the reference services provided	167	6
62.	Refer clients to sources of information	164	7
8.	Am responsible for the over-all acquisitions program	163	8
64.	Provide research assistance	163	8
60.	Have over-all responsibility for clientele services	160	10
193.	Make decisions without consulting others	158	11
216.	Schedule activities to insure that deadlines are met	153	12
228.	Interpret library programs to key officials, users, special groups	150	13
86.	Give over-all supervision to the maintenance of holdings	148	14
206.	Give prompt and full attention to all communications received	148	14
114.	Make tentative selection of material from reviews, catalogs, lists	145	16
108.	Have over-all responsibility for operation of selection system	144	17
128.	Integrate library programs with missions of parent organization	140	18
25.	Compile bibliographies in specialized subject areas	136	19
194.	Make decisions based on consultation with subordinates	135	20
199.	Stimulate subordinates toward superior performance and creativity	128	21
63.	Instruct users in reference methods and information sources	125	22
113.	Identify needs of clientele	124	23
111.	Make final decisions on selection of material for unit or subject area	121	24
217.	Assign priorities for the completion of work	121	24
	Mean	116.32*	
	Standard Deviation	83.49	
GS 12 - 14 (N=110)			
187.	Directly supervise and guide subordinates	253	1
206.	Give prompt and full attention to all communications received	186	2
188.	Assign jobs to subordinates	164	3

Job Item Number	Job Item	Weighted Time Score	Rank
228.	Interpret library programs to key officials, users, special groups	158	4
207.	Frame and transmit communications to support organizational objectives	145	5
142.	Help develop new programs and/or activities	144	6
193.	Make decisions without consulting others	144	6
194.	Make decisions based on consultation with subordinates	142	8
131.	Determine needed programs for the library	135	9
128.	Integrate library programs with missions of parent organization	134	10
216.	Schedule activities to insure that deadlines are met	134	10
217.	Assign priorities for the completion of work	132	12
199.	Stimulate subordinates toward superior performance and creativity	131	13
141.	Devise detailed procedures to implement general policy	130	14
129.	Establish goals and objectives for the library	129	15
190.	Train new employees in the performance of their work	129	15
191.	Check the accuracy of work of subordinates	125	17
195.	Give orders to initiate, modify, or stop activities	125	17
213.	Anticipate problems and prevent their occurence through continuous interchange of information and early and direct contact of all involved	125	17
198.	Review decisions and/or proposals that are made by subordinates	118	20
237.	Attend professional meetings and/or conferences	118	20
130.	Forecast new and/or changed demands for service	117	22
192.	Brief subordinates on immediate and continuing library programs	116	23
196.	Install operating procedures for new activities and/or programs	116	23
140.	Recommend policy changes	113	25
169.	Prepare position descriptions or analyses	113	25
	Mean	95.06*	
	Standard Deviation	88.37	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE XI

JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED IMPORTANCE SCORE BY TYPE OF POSITION:1968

Job Item Number	Job Item	Weighted Importance Score	Rank
ADMINISTRATIVE (N=230)			
187.	Directly supervise and guide subordinates	781	1
188.	Assign jobs to subordinates	625	2
216.	Schedule activities to insure that deadlines are met	557	3
217.	Assign priorities for the completion of work	545	4
206.	Give prompt and full attention to all communications received	543	5
228.	Interpret library programs to key officials, users, special groups	540	6
190.	Train new employees in the performance of their work	536	7
199.	Stimulate subordinates toward superior performance and creativity	526	8
191.	Check the accuracy of work of subordinates	518	9
197.	Give subordinates authority to command or to act in certain areas	516	10
96.	Have over-all responsibility for the reference services provided	508	11
128.	Integrate library programs with missions of parent organization	487	12
60.	Have over-all responsibility for clientele services	485	13
129.	Establish goals and objectives for the library	483	14
201.	Identify and develop potential in subordinates	475	15
8.	Am responsible for the over-all acquisitions program	472	16
198.	Review decisions and/or proposals that are made by subordinates	472	16
194.	Make decisions based on consultation with subordinates	468	18
193.	Make decisions without consulting others	467	19
237.	Attend professional meetings and/or conferences	466	20
98.	Actively answer reference questions	457	21
195.	Give orders to initiate, modify, or stop activities	457	21
192.	Brief subordinates on immediate and continuing library programs	451	23
166.	Select personnel	449	24
131.	Determine needed programs for the library	443	25
	Mean	194.25*	
	Standard Deviation	158.43	

Job Item Number	Job Item	Weighted Importance Score	Rank
NON-ADMINISTRATIVE (N=135)			
98.	Actively answer reference questions	241	1
62.	Refer clients to sources of information	177	2
64.	Provide research assistance	165	3
63.	Instruct users in reference methods and information sources	146	4
35.	Classify and/or reclassify books	131	5
38.	Do descriptive cataloging of books	129	6
191.	Check the accuracy of work of subordinates	127	7
40.	Do subject cataloging of books	121	8
187.	Directly supervise and guide subordinates	116	9
190.	Train new employees in the performance of their work	113	10
120.	Make recommendations on selection of materials	111	11
25.	Compile bibliographies in specialized subject areas	109	12
26.	Prepare demand bibliographies upon request	101	13
193.	Make decisions without consulting others	100	14
37.	Expand, develop, and improve lists of subject headings	92	15
210.	Exchange ideas and reach understandings through direct contact with others in the library who are not my subordinates	91	16
46.	Revise cataloging and/or classification done by others	88	17
114.	Make tentative selection of materials from reviews, catalogs, lists	81	18
82.	Conduct retrospective searches	79	19
113.	Identify needs of clientele	79	19
48.	Catalog and/or classify public documents and technical reports	78	21
188.	Assign jobs to subordinates	76	22
81.	Notify users of material that match their profiles	72	23
228.	Interpret library programs to key officials, users, special groups	70	24
36.	Classify and/or reclassify non-book materials	68	25
237.	Attend professional meetings and/or conferences	68	25
	Mean	26.11*	
	Standard Deviation	35.15	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE XII
JOB ACTIVITY ITEMS RANKED ACCORDING TO WEIGHTED IMPORTANCE SCORE BY GRADE LEVEL:1968

Job Item Number	Job Item	Weighted Importance Score	Rank
GS 9 (N=115)			
98.	Actively answer reference questions	301	1
187.	Directly supervise and guide subordinates	219	2
64.	Provide research assistance	209	3
62.	Refer clients to sources of information	200	4
96.	Have over-all responsibility for the reference services provided	198	5
188.	Assign jobs to subordinates	197	6
191.	Check the accuracy of work of subordinates	192	7
60.	Have over-all responsibility for clientele services	191	8
29.	Have over-all responsibility for the cataloging program	188	9
190.	Train new employees in the performance of their work	180	10
50.	Have over-all responsibility for circulation system	173	11
63.	Instruct users in reference methods and information sources	173	11
114.	Make tentative selection of material from reviews, catalogs, lists	168	13
8.	Am responsible for the over-all acquisitions program	162	14
35.	Classify and/or reclassify books	158	15
217.	Assign priorities for the completion of work	157	16
228.	Interpret library programs to key officials, users, special groups	156	17
40.	Do subject cataloging of books	153	18
216.	Schedule activities to insure that deadlines are met	153	18
30.	Have over-all responsibility for the classification program	147	20
193.	Make decisions without consulting others	145	21
38.	Do descriptive cataloging of books	144	22
113.	Identify needs of clientele	140	23
206.	Give prompt and full attention to all communications received	139	24
26.	Produce demand bibliographies on request	136	25
	Mean	66.23*	
	Standard Deviation	52.46	

Job Item Number	Job Item	Weighted Importance Score	Rank
GS 10, 11 (N=140)			
187.	Directly supervise and guide subordinates	355	1
98.	Actively answer reference questions	292	2
192.	Brief subordinates on immediate and continuing library programs	283	3
190.	Train new employees in the performance of their work	281	4
188.	Assign jobs to subordinates	266	5
216.	Schedule activities to insure that deadlines are met	229	6
228.	Interpret library programs to key officials, users, special groups	224	7
96.	Have over-all responsibility for the reference service provided	214	8
206.	Give prompt and full attention to all communications received	213	9
217.	Assign priorities for the completion of work	211	10
62.	Refer clients to sources of information	210	11
64.	Provide research assistance	208	12
60.	Have over-all responsibility for clientele services	202	13
128.	Integrate library programs with missions of parent organization	202	13
193.	Make decisions without consulting others	202	13
199.	Stimulate subordinates toward superior performance and creativity	200	16
113.	Identify needs of clientele	198	17
237.	Attend professional meetings and/or conferences	194	18
86.	Give over-all supervision to the maintenance of holdings	192	19
8.	Am responsible for the over-all acquisitions program	190	20
194.	Make decisions based on consultation with subordinates	189	21
201.	Identify and develop potential in subordinates	188	22
114.	Make tentative selection of material from reviews, catalogs, lists	183	23
195.	Give orders to initiate, modify, or stop activities	182	24
63.	Instruct users in reference methods and in information sources	178	25
	Mean	83.50*	
	Standard Deviation	66.88	

Job Item Number	Job Item	Weighted Importance Score	Rank
GS 12 - 14 (N=110)			
187.	Directly supervise and guide subordinates	323	1
206.	Give prompt and full attention to all communications received	244	2
199.	Stimulate subordinates toward superior performance and creativity	241	3
188.	Assign jobs to subordinates	238	4
228.	Interpret library programs to key officials, users, special groups	230	5
197.	Give subordinates authority to command or to act in certain areas	228	6
198.	Review decisions and/or proposals that are made by subordinates	222	7
193.	Make decisions without consulting others	220	8
201.	Identify and develop potential in subordinates	220	8
237.	Attend professional meetings and/or conferences	219	10
217.	Assign priorities for the completion of work	218	11
194.	Make decisions based on consultation with subordinates	211	12
195.	Give orders to initiate, modify, or stop activities	210	13
216.	Schedule activities to insure that deadlines are met	207	14
138.	Negotiate with higher management about allocation of funds	206	15
213.	Anticipate problems and prevent their occurence through continuous interchange of information and early and direct contact of all involved	206	15
129.	Establish goals and objectives for the library	205	17
142.	Help develop new programs and/or activities	202	18
166.	Select personnel	202	18
128.	Integrate library programs with missions of parent organization	200	20
192.	Brief subordinates on immediate and continuing library programs	197	21
207.	Frame and transmit communications to support organizational objectives	195	22
190.	Train new employees in the performance of their work	188	23
177.	Make and/or approve recommendations for promotion	187	24
131.	Determine needed programs for the library	183	25
	Mean	70.64*	
	Standard Deviation	69.33	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE XIII
JOB ACTIVITY ITEMS RANKED ACCORDING TO JOINT TIME/ IMPORTANCE WEIGHTED SCORE BY TYPE OF POSITION: 1968

Job Item Number	Job Item	Joint Time/ Importance Weighted Score	Rank
ADMINISTRATIVE (N=230)			
187.	Directly supervise and guide subordinates	3190	1
188.	Assign jobs to subordinates	2617	2
216.	Schedule activities to insure that deadlines are met	2380	3
228.	Interpret library programs to key officials, users, special groups	2285	4
217.	Assign priorities for the completion of work	2247	5
199.	Stimulate subordinates toward superior performance and creativity	2186	6
197.	Give subordinates authority to command or to act in certain areas	2170	7
190.	Train new employees in the performance of their work	2129	8
191.	Check the accuracy of work of subordinates	2119	9
237.	Attend professional meetings and/or conferences	2118	10
206.	Give prompt and full attention to all communications received	2109	11
96.	Have over-all responsibility for the reference services provided	2072	12
60.	Have over-all responsibility for clientele services	2069	13
201.	Identify and develop potential in subordinates	2003	14
129.	Establish goals and objectives for the library	1998	15
195.	Give orders to initiate, modify or stop activities	1976	16
128.	Integrate library programs with missions of parent organization	1973	17
166.	Select personnel	1955	18
198.	Review decisions and/or proposals that are made by subordinates	1950	19
194.	Make decisions based on consultation with subordinates	1941	20
193.	Make decisions without consulting others	1922	21
192.	Brief subordinates on immediate and continuing library programs	1902	22
177.	Make and/or approve recommendations for promotion	1862	23
98.	Actively answer reference questions	1812	24
8.	Am responsible for the over-all acquisitions program	1780	25
	Mean	813.31*	
	Standard Deviation	658.99	

Job Item Number	Job Item	Joint Time/Importance Weighted Score	Rank
NON-ADMINISTRATIVE (N=135)			
98.	Actively answer reference questions	1097	1
62.	Refer clients to sources of information	719	2
64.	Provide research assistance	708	3
63.	Instruct users in reference methods and information sources	600	4
38.	Do descriptive cataloging of books	586	5
35.	Classify and/or reclassify books	575	6
40.	Do subject cataloging of books	534	7
191.	Check the accuracy of work of subordinates	493	8
120.	Make recommendations on selection of materials	463	9
25.	Compile bibliographies in specialized subject areas	447	10
187.	Directly supervise and guide subordinates	445	11
190.	Train new employees in the performance of their work	441	12
26.	Produce demand bibliographies upon request	405	13
193.	Make decisions without consulting others	389	14
37.	Expand, develop, and improve lists of subject headings	385	15
46.	Revise cataloging and/or classification done by others	379	16
210.	Exchange ideas and reach understandings through direct contact with others in the library who are not my subordinates	367	17
82.	Conduct retrospective searches	337	18
48.	Catalog and/or classify public documents and technical reports	336	19
113.	Identify needs of clientele	335	20
114.	Make tentative selection of material from reviews, catalogs, lists	332	21
188.	Assign jobs to subordinates	320	22
237.	Attend professional meetings and/or conferences	313	23
81.	Notify users of materials that match their profiles	300	24
228.	Interpret library programs to key officials, users, special groups	299	25
	Mean	113.41*	
	Standard Deviation	148.92	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE XIV

JOB ACTIVITY ITEMS RANKED ACCORDING TO JOINT TIME/ IMPORTANCE SCORE BY GRADE LEVEL:1968

Job Item Number	Job Item	Joint Time/ Importance Score	Rank
GS 9 (N=115)			
98.	Actively answer reference questions	1254	1
188.	Assign jobs to subordinates	883	2
187.	Directly supervise and guide subordinates	879	3
64.	Provide research assistance	867	4
96.	Have over-all responsibility for the reference services provided	828	5
29.	Have over-all responsibility for the cataloging program	814	6
62.	Refer clients to sources of information	809	7
60.	Have over-all responsibility for clientele services	791	8
191.	Check the accuracy of work of subordinates	778	9
63.	Instruct users in reference methods and information sources	734	10
50.	Have over-all responsibility for circulation system	731	11
190.	Train new employees in the performance of their work	720	12
114.	Make tentative selection of material from reviews, catalogs, lists	714	13
216.	Schedule activities to insure that deadlines are met	689	14
217.	Assign priorities for the completion of work	683	15
228.	Interpret library programs to key officials, users, special groups	682	16
35.	Classify and/or reclassify books	679	17
40.	Do subject cataloging of books	650	18
38.	Do descriptive cataloging of books	647	19
8.	Am responsible for the over-all acquisitions program	630	20
30.	Have over-all responsibility for the classification program	625	21
193.	Make decisions without consulting others	607	22
120.	Make recommendations on selection of materials	577	23
237.	Attend professional meetings and/or conferences	573	24
129.	Establish goals and objectives for the library	571	25
	Mean	284.49	
	Standard Deviation	221.58	
GS 10, 11 (N=140)			
187.	Directly supervise and guide subordinates	1411	1
98.	Actively answer reference questions	1210	2

Job Item Number	Job Item	Joint Time/Importance Score	Rank
191.	Check the accuracy of work of subordinates	1141	3
190.	Train new employees in the performance of their work	1099	4
188.	Assign jobs to subordinates	1076	5
228.	Interpret library programs to key officials, users, special groups	972	6
216.	Schedule activities to insure that deadlines are met	959	7
237.	Attend professional meetings and/or conferences	908	8
96.	Have over-all responsibility for the reference services provided	900	9
217.	Assign priorities for the completion of work	883	10
60.	Have over-all responsibility for clientele services	876	11
64.	Provide research assistance	873	12
62.	Refer clients to sources of information	858	13
206.	Give prompt and full attention to all communications received	835	14
199.	Stimulate subordinates toward superior performance and creativity	832	15
193.	Make decisions without consulting others	832	15
128.	Integrate library programs with missions of parent organization	806	17
201.	Identify and develop potential in subordinates	788	18
113.	Identify needs of clientele	774	19
195.	Give orders to initiate, modify, or stop activities	774	19
63.	Instruct users in reference methods and information sources	761	21
194.	Make decisions based on consultation with subordinates	751	22
197.	Give subordinates authority to command or to act in certain areas	748	23
86.	Give over-all supervision to the maintenance of holdings	745	24
166.	Select personnel	737	25
	Mean	345.34	
	Standard Deviation	275.08	
GS 12 - 14 (N=110)			
187.	Directly supervise and guide subordinates	1345	1
199.	Stimulate subordinates toward superior performance and creativity	1011	2

Job Item Number	Job Item	Joint Time/ Importance Score	Rank
197.	Give subordinates authority to command or to act in certain areas	978	3
188.	Assign jobs to subordinates	978	3
237.	Attend professional meetings and/or conferences	950	5
201.	Identify and develop potential in subordinates	948	6
206.	Give prompt and full attention to all communications received	940	7
228.	Interpret library programs to key officials, users, special groups	930	8
140.	Recommend policy changes	927	9
198.	Study and implement the Civil Service Classification Standards	920	10
166.	Select personnel	910	11
195.	Give orders to initiate, modify, or stop activites	909	12
194.	Make decisions based on consultation with subordinates	884	13
216.	Schedule activities to insure that deadlines are met	880	14
193.	Make decisions without consulting others	872	15
192.	Brief subordinates on immediate and continuing library programs	870	16
217.	Assign priorities for the completion of work	848	17
177.	Make and/or approve recommendations for promotion	842	18
128.	Integrate library programs with missions of parent organizations	832	19
213.	Anticipate problems and prevent their occurrence through continuous interchange of information and early and direct contact of all involved	823	20
142.	Help develop new programs and/or activities	810	21
129.	Establish goals and objectives for the library	807	22
207.	Frame and transmit communications to support organizational objectives	763	23
196.	Install operating procedures for new activities and/or programs	756	24
190.	Train new employees in the performance of their work	751	25
	Mean	296.89	
	Standard Deviation	288.59	

*These statistics were calculated for all the 223 job items.

APPENDIX TABLE XV

FREQUENCY DISTRIBUTION OF NUMBER OF WORKSHOPS CHECKED BY THE RESPONDENTS BY TYPE OF POSITION AND GRADE LEVEL: 1968

Number of Workshops Checked	Workshop: Frequency by Respondent					
	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14	
0	59	50	41	36	32	109
1	11	9	5	5	10	20
2	12	13	8	8	9	25
3	9	11	8	6	6	20
4	14	10	5	10	9	24
5	5	3	3	4	1	8
6	10	4	5	3	6	14
7	15	3	6	11	1	18
8	14	2	5	8	3	16
9	7	3	0	7	3	10
10	11	1	1	8	3	12
11	4	4	2	4	2	8
12	5	2	1	2	4	7
13	2	3	1	2	2	5
14	7	3	3	4	3	10
15	3	1	2	1	1	4
16	3	2	2	2	1	5
17	4	1	2	1	2	5
18	4	1	1	3	1	5
19	1	0	0	1	0	1
20	2	1	0	2	1	3
21	2	0	1	1	0	2
22	0	0	0	0	0	0
23	1	0	0	0	1	1
24	3	1	1	1	2	4
25	1	0	0	0	1	1
26	2	1	3	0	0	3
27	0	0	0	0	0	0
28	3	0	1	2	0	3
29	1	2	1	1	1	3
30	0	1	1	0	0	1
31 or above	15	3	6	7	5	18
Total	230	135	115	140	110	365

APPENDIX TABLE XVI
FREQUENCY DISTRIBUTION OF NUMBER OF COURSES CHECKED IN CATEGORY "COURSE NOW" BY THE RESPONDENTS BY TYPE OF POSITION AND GRADE LEVEL: 1968

Number of Courses Checked	Course Now: Frequency by Respondent					
	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14	
0	130	72	68	71	63	202
1	11	7	4	10	4	18
2	13	8	8	4	9	21
3	10	14	8	10	6	24
4	6	4	1	6	3	10
5	6	1	3	0	4	7
6	8	2	3	4	3	10
7	6	1	1	2	4	7
8	4	5	4	5	0	9
9	7	5	1	5	6	12
10	2	2	1	2	1	4
11	2	0	1	1	0	2
12	2	0	0	1	1	2
13	1	3	1	3	0	4
14	0	1	1	0	0	1
15	3	2	1	2	2	5
16	1	4	3	1	1	5
17	4	1	1	3	1	5
18	0	1	0	1	0	1
19	0	1	0	1	0	1
20	0	0	0	0	0	0
21	1	1	1	1	0	2
22	1	0	0	1	0	1
23	0	0	0	0	0	0
24	1	0	0	1	0	1
25	1	0	1	0	0	1
26	2	0	0	1	1	2
27	1	0	0	1	0	1
28	1	0	1	0	0	1
29	1	0	0	1	0	1
30	1	0	1	0	0	1
31 or above	4	0	1	2	1	4
Total	230	135	115	140	110	365

APPENDIX TABLE XVII

FREQUENCY DISTRIBUTION OF NUMBER OF COURSES CHECKED IN CATEGORY "COURSE LATER" BY THE RESPONDENTS BY TYPE OF POSITION AND GRADE LEVEL: 1968

Number of Courses Checked	Course Later: Frequency by Respondent					
	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14	
0	116	64	47	72	61	180
1	12	8	4	9	7	20
2	7	10	4	9	4	17
3	11	5	3	8	5	16
4	14	10	9	7	8	24
5	10	4	3	4	7	14
6	8	4	6	3	3	12
7	5	5	3	4	3	10
8	3	3	3	1	2	6
9	5	4	7	2	0	9
10	3	2	3	0	2	5
11	4	3	3	3	1	7
12	2	3	0	3	2	5
13	2	1	2	1	0	3
14	1	1	1	1	0	2
15	5	2	6	0	1	7
16	5	0	2	1	2	5
17	3	1	2	2	0	4
18	3	1	1	2	1	4
19	3	0	1	1	1	3
20	1	0	1	0	0	1
21	1	0	1	0	0	1
22	0	1	1	0	0	1
23	1	0	0	1	0	1
24	1	0	0	1	0	1
25	1	0	0	1	0	1
26	0	1	0	1	0	1
27	0	0	0	0	0	0
28	1	0	1	0	0	1
29	0	0	0	0	0	0
30	1	0	0	1	0	1
31 or above	1	2	1	2	0	3
Total	230	135	115	140	110	365

APPENDIX TABLE XVIII
FREQUENCY DISTRIBUTION OF NUMBER OF COURSES CHECKED IN CATEGORIES "COURSE NOW" OR "COURSE LATER" BY THE RESPONDENTS BY TYPE OF POSITION AND GRADE LEVEL: 1968

Number of Courses Checked	"Course Now" or "Course Later": Frequency by Respondent					
	Type of Position		Grade Level			Total
	Administrative	Non-Administrative	9	10, 11	12-14	
0	91	44	34	56	45	135
1	10	8	3	10	5	18
2	8	9	4	5	8	17
3	9	6	6	6	3	15
4	12	11	8	7	8	23
5	9	3	3	3	6	12
6	10	6	7	5	4	16
7	11	6	3	8	6	17
8	4	4	4	2	2	8
9	7	4	5	4	2	11
10	3	3	2	2	2	6
11	5	4	2	3	4	9
12	1	2	1	1	1	3
13	5	3	5	1	2	8
14	0	2	1	1	0	2
15	5	2	2	2	3	7
16	4	1	3	1	1	5
17	7	2	3	2	4	9
18	4	2	3	2	1	6
19	3	1	1	3	0	4
20	1	0	1	0	0	1
21	4	1	3	2	0	5
22	0	2	1	1	0	2
23	2	1	0	[illegible]	0	3
24	2	1	1	2	0	3
25	2	2	1	3	0	4
26	0	0	0	0	0	0
27	2	1	2	0	1	3
28	1	0	1	0	0	1
29	0	2	1	1	0	2
30	2	0	0	1	1	2
31 or above	6	2	4	3	1	8
Total	230	135	115	140	110	365

APPENDIX TABLE XIX

COURSES SHOWING HIGHEST RESPONSE RANKINGS INDICATING INTEREST IN "WORKSHOP" BY TYPE OF POSITION:1968

Workshop Number	Title of Workshop	Number Checking Workshop	Rank
ADMINISTRATIVE (N=230)			
3.	Current Practices in Acquisition and Selection of Non-Book Materials	65	1
1.	Building and Evaluating Library Collections	64	2
26.	Automation of Library Processes	57	3
66.	Resources and Services of the Federal Library Complex	55	4
40.	Circulation Systems	50	5
5.	Administration Policies and Practices	46	6
8.	General Management	46	6
9.	Human Relations in Library Administration	46	6
15.	Program Planning and Budgeting	46	6
19.	Administration of the Special Federal Library	46	6
59.	Current Issues in Librarianship and Information Science	43	11
64.	Library Networks	43	11
72.	Non-Conventional Library Reference Tools	43	11
2.	Centralized Processing	41	14
12.	Personnel Administration in Libraries	41	14
43.	Information Retrieval for Clientele	41	14
46.	Equipment Evaluation, Selection, and Procurement	40	17
71.	Development and Maintenance of a Reference Referral Center	39	18
13.	Personnel Problems under the Impact of Technological Change: Library Applications	38	19
33.	Cataloging and Classification of Non-Book Materials	38	19
57.	The Scope of Information Science	38	19
6.	Communication Theory and Processes	37	22
41.	Reprography	36	23
48.	Planning and Justifying Library Quarters	36	23
34.	Centralized Cataloging at the National Level	35	25
NON-ADMINISTRATIVE (N=135)			
26.	Automation of Library Processes	26	1
28.	Information Retrieval Systems	25	2
66.	Resources and Services of the Federal Library Complex	22	3

Workshop Number	Title of Workshop	Number Checking Workshop	Rank
72.	Non-Conventional Library Reference Tools	22	3
36.	New Advances in Classification Schemes and Cataloging Systems	18	5
43.	Information Retrieval for Clientele	18	5
44.	Literature Searching	18	5
74.	Search Logic and Tactics	18	5
1.	Building and Evaluating Library Collections	16	9
9.	Human Relations in Library Administration	16	9
27.	Information Processing on Computers	16	9
34.	Centralized Cataloging at the National Level	16	9
59.	Current Issues in Librarianship and Information Science	16	9
37.	Recataloging and Reclassification	14	14
69.	Publishing in the Twentieth Century: Book and Non-Book Materials	14	14
8.	General Management	13	16
13.	Personnel Problems Under the Impact of Technological Change: Library Applications	13	16
19.	Administration of the Special Federal Library	13	16
40.	Circulation System	13	16
57.	The Scope of Information Science	13	16
6.	Communication Theory and Processes	12	21
7.	Design of Library Organizations	12	21
71.	Development and Maintenance of a Reference Referral Center	12	21
87.	Scientific and Technical Literature and Research	12	21
3.	Current Practices in Acquisition and Selection of Non-Book Materials	11	25
12.	Personnel Administration in Libraries	11	25
52.	Theories of Indexing and Information Retrieval	11	25
73.	Organization and Administration of Reference Systems	11	25
89.	Technical Report Literature	11	25
90.	U.S. Public Documents	11	25

APPENDIX TABLE XX.

COURSES SHOWING HIGHEST RESPONSE RANKINGS INDICATING INTEREST IN "WORKSHOP" BY GRADE LEVEL: 1968

Workshop Number	Title of Workshop	Number Checking Workshop	Rank
GS 9 (N=115)			
1.	Building and Evaluating Library Collections	29	1
3.	Current Practices in Acquisitions and Selection of Non-Book Materials	24	2
72.	Non-Conventional Library Reference Tools	23	3
40.	Circulation Systems	23	3
2.	Centralized Processing	22	5
6.	Communication Theory and Processes	20	6
66.	Resources and Services of the Federal Library Complex	20	6
8.	General Management	19	8
9.	Human Relations in Library Administration	19	8
46.	Equipment Evaluation, Selection and Procurement	19	8
41.	Reprography	18	11
43.	Information Retrieval for Clientele	18	11
74.	Search Logic and Tactics	18	11
5.	Administrative Policies and Practices	17	14
12.	Personnel Administration in Libraries	17	14
14.	Policy Formation and Decision-Making in Library Organizations	17	14
28.	Information Retrieval Systems	17	14
37.	Recataloging and Reclassification: Problems and Procedures	17	14
71.	Development and Maintenance of a Reference Referral Center	17	14
19.	Administration of the Special Federal Library	16	20
33.	Cataloging and Classification of Non-Book Materials	16	20
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	16	20
59.	Current Issues in Librarianship and Information Science	16	20
64.	Library Networks	16	20
7.	Design of Library Organizations	15	25
11.	Management of Records Systems in the Library	15	25
12.	Personnel Administration in Libraries	15	25
26.	Automation of Library Processes	15	25
34.	Centralized Cataloging at the National Level	15	25
44.	Literature Searching	15	25

Workshop Number	Title of Workshop	Number Checking Workshop	Rank
69.	Publishing in the Twentieth Century	15	25
GS 10, 11 (N=140)			
26.	Automation of Library Processes	37	1
66.	Resources and Services of the Federal Library Complex	36	2
3.	Current Practices in Acquisition and Selection of Non-Book Materials	35	3
72.	Non-Conventional Library Reference Tools	33	4
1.	Building and Evaluating Library Collections	32	5
28.	Information Retrieval Systems	31	6
8.	General Management	28	7
43.	Information Retrieval for Clientele	28	7
59.	Current Issues in Librarianship and Information Science	26	9
9.	Human Relations in Library Administration	26	9
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	23	11
44.	Literature Searching	23	11
19.	Administration of the Special Federal Library	22	13
27.	Information Processing on Computers	22	13
40.	Circulation Systems	22	13
48.	Planning and Justifying Library Quarters	22	13
87.	Scientific and Technical Literature and Research	21	17
15.	Program Planning and Budgeting	20	18
34.	Centralized Cataloging at the National Level	20	18
46.	Equipment Evaluation, Selection, and Procurement	20	18
57.	The Scope of Information Science	20	18
71.	Development and Maintenance of a Reference Referral Center	20	18
74.	Search Logic and Tactics	20	18
13.	Personnel Problems under the Impact of Technological Change: Library Applications	18	24
33.	Cataloging and Classification of Non-Book Materials	18	24
64.	Library Networks	18	24
73.	Organization and Administration of Reference Systems	18	24
GS 12 - 14 (N=110)			
26.	Automation of Library Processes	31	1

Workshop Number	Title of Workshop	Number Checking Workshop	Rank
5.	Administration Policies and Practices	22	2
19.	Administration of the Special Federal Library	21	3
66.	Resources and Services of the Federal Library Complex	21	3
12.	Personnel Administration in Libraries	20	5
15.	Program Planning and Budgeting	20	5
1.	Building and Evaluating Library Collections	19	7
9.	Human Relations in Library Administration	19	7
40.	Circulation Systems	19	7
13.	Personnel Problems under the Impact of Technological Change: Library Applications	18	10
57.	The Scope of Information Science	18	10
3.	Current Practices in Acquisition and Selection of Non-Book Materials	17	12
59.	Current Issues in Librarianship and Information Science	17	12
64.	Library Networks	17	12
7.	Design of Library Organizations	16	15
14.	Policy Formation and Decision-Making in Library Organizations	16	15
34.	Centralized Cataloging at the National Level	16	15
92.	Library Management Information Systems	16	15
2.	Centralized Processing	14	19
71.	Development and Maintenance of a Reference Referral Center	14	19
6.	Communication Theory and Processes	13	21
43.	Information Retrieval for Clientele	13	21
8.	General Management	12	23
27.	Information Processing on Computers	12	23
63.	The Library Administrator and Government Policy, Organization and Operation	12	23
76.	Operations Research in Library Management	12	23

APPENDIX TABLE XXI

COURSES SHOWING HIGHEST RESPONSE RANKINGS INDICATING INTEREST IN EITHER "COURSE NOW" OR "COURSE LATER" BY GRADE LEVEL:1968

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
GS 9 (N=115)			
26.	Automation of Library Processes	41	1
28.	Information Retrieval Systems	41	1
27.	Information Processing on Computers	34	3
43.	Information Retrieval for Clientele	26	4
15.	Program Planning and Budgeting	23	5
19.	Administration of the Special Federal Library	23	5
73.	Organization and Administration of Reference Systems	22	7
72.	Non-Conventional Library Reference Tools	19	8
5.	Administrative Policies and Practices	18	9
12.	Personnel Administration in Libraries	18	9
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	18	9
57.	The Scope of Information Science	18	9
74.	Search Logic and Tactics	18	9
7.	Design of Library Organizations	17	14
9.	Human Relations in Library Administration	17	14
13.	Personnel Problems Under the Impract of Technological Change: Library Applications	17	14
44.	Literature Searching	17	14
3.	Current Practices in Acquisition and Selection of Non-Book Materials	16	18
22.	Information Center Administration	16	18
68.	Publication in the Library and Information Science Fields	16	18
71.	Development and Maintenance of a Reference Referral Center	16	18
90.	U.S. Public Documents	16	18
GS 10, 11 (N=140)			
26.	Automation of Library Processes	43	1
28.	Information Retrieval Systems	40	2
27.	Information Processing on Computers	34	3
8.	General Management	29	4
9.	Human Relations in Library Administration	29	4
5.	Administrative Policies and Practices	27	6

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
19.	Administration of the Special Federal Library	27	6
90.	U.S. Public Documents	24	8
12.	Personnel Administration in Libraries	22	9
73.	Organization and Administration of Reference Systems	22	9
93.	Systems Analysis and Design for Library and Information Center Operations	22	9
7.	Design of Library Organizations	21	12
13.	Personnel Problems under the Impact of Technological Change: Library Applications	21	12
43.	Information Retrieval for Clientele	21	12
50.	Abstracting and Indexing Services	21	12
15.	Program Planning and Budgeting	20	16
94.	Systems Analysis in Information Science	20	16
3.	Current Practices in Acquisition and Selection of Non-Book Materials	19	18
30.	Analytical Bibliography	19	18
57.	The Scope of Information Science	19	18
68.	Publication in the Library and Information Science Fields	19	18
GS 12-14 (N=110)			
26.	Automation of Library Processes	35	1
28.	Information Retrieval Systems	35	1
27.	Information Processing on Computers	33	3
5.	Administrative Policies and Practices	17	4
93.	Systems Analysis and Design for Library and Information Center Operations	15	5
19.	Administration of the Special Federal Library	14	6
38.	Subject Representation	13	7
6.	Communication Theory and Processes	12	8
7.	Design of Library Organizations	12	8
9.	Human Relations in Library Administration	12	8
94.	Systems Analysis in Information Science	11	11
74.	Search Logic and Tactics	10	12
15.	Program Planning and Budgeting	9	13
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	9	13
56.	Mathematical Techniques for Information Science	9	13
78.	Statistical Theory and the Interpretation of Statistical Data for Researching in Libraries and Information Centers	9	13

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
3.	Current Practices in Acquisition and Selection of Non-Book Materials	8	17
8.	General Management	8	17
10.	Innovation and Planned Change in Library Organizations	8	17
12.	Personnel Administration in Libraries	8	17
14.	Policy Formation and Decision-Making in Library Organizations	8	17
43.	Information Retrieval for Clientele	8	17
50.	Abstracting and Indexing Services	8	17
64.	Library Networks	8	17
68.	Publication in the Library and Information Science Fields	8	17
89.	Technical Report Literature	8	17
92.	Library Management Information Systems	8	17

APPENDIX TABLE XXII

COURSES SHOWING HIGHEST RESPONSE RANKINGS INDICATING INTEREST IN EITHER "COURSE NOW" OR "COURSE LATER" BY AGE GROUP:1968

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
35 OR UNDER AGE GROUP			
28.	Information Retrieval Systems	31	1
26.	Automation of Library Processes	30	2
27.	Information Processing of Computers	27	3
5.	Administrative Policies and Practices	22	4
43.	Information Retrieval for Clientele	22	4
9.	Human Relations in Library Administration	19	6
72.	Non-Conventional Library Reference Tools	16	7
13.	Personnel Problems under the Impact of Technological Change: Library Applications	15	8
68.	Publication in the Library and Information Science Fields	15	8
8.	General Management	14	10
44.	Literature Searching	14	10
57.	The Scope of Information Science	14	10
6.	Communication Theory and Processes	13	13
12.	Personnel Administration in Libraries	13	13
73.	Organization and Administration of Reference Systems	13	13
74.	Search Logic and Tactics	13	13
2.	Centralized Processing	12	17
7.	Design of Library Organizations	12	17
15.	Program Planning and Budgeting	12	17
22.	Information Center Administration	12	17
69.	Publishing in the Twentieth Century: Book and Non-Book Materials	12	17
90.	U.S. Public Documents	12	17
36-45 AGE GROUP			
26.	Automation of Library Processes	50	1
28.	Information Retrieval Systems	44	2
27.	Information Processing on Computers	42	3
19.	Administration of the Special Federal Library	33	4
9.	Human Relations in Library Administration	24	5
7.	Design of Library Organizations	23	6
8.	Administrative Policies and Practices	22	7

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
12.	Personnel Administration in Libraries	21	8
93.	Systems Analysis and Design for Library and Information Center Operations	21	8
15.	Program Planning and Budgeting: Library Applications	20	10
6.	Communication Theory and Processes	19	11
13.	Personnel Problems under the Impact of Technological Change: Library Applications	19	11
73.	Organization and Administration of Reference Systems	19	11
3.	Current Practices in Acquisition and Selection of Non-Book Materials	18	14
8.	General Management	18	14
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	16	16
74.	Search Logic and Tactics	16	16
11.	Management of Records Systems in the Library	15	18
43.	Information Retrieval for Clientele	15	18
57.	The Scope of Information Science	15	18
87.	Scientific and Technical Literature and Research	15	18
46 - 55 AGE GROUP			
28.	Information Retrieval Systems	33	1
26.	Automation of Library Processes	30	2
27.	Information Processing on Computers	28	3
19.	Administration of the Special Federal Library	17	4
50.	Abstracting and Indexing Services	17	4
8.	General Management	16	6
15.	Program Planning and Budgeting	16	6
71.	Organization and Administration of Reference Systems	16	6
22.	Information Center Administration	15	10
5.	Administrative Policies and Practices	14	11
38.	Subject Representation	14	11
43.	Information Retrieval for Clientele	14	11
90.	U.S. Public Documents	14	11
93.	Systems Analysis and Design for Library and Information Center Operations	14	11
94.	Systems Analysis in Information Science	14	11

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
66.	Resources and Services of the Federal Library Complex	13	17
72.	Non-Conventional Library Reference Tools	13	17
9.	Human Relations in Library Administration	12	19
57.	The Scope of Information Science	12	19
74.	Search Logic and Tactics	12	19
92.	Library Management Information Systems	12	19
56 OR OVER AGE GROUP			
26.	Automation of Library Processes	9	1
28.	Information Retrieval Systems	8	2
36.	New Advances in Classification Schemes and Cataloging Systems; A Survey	8	2
68.	Publication in the Library and Information Science Fields	6	4
1.	Building and Evaluating Library Collections	5	5
3.	Current Practices in Acquisition and Selection of Non-Book Materials	5	5
33.	Cataloging and Classification of Non-Book Materials	5	5
59.	Current Issues in Librarianship and Information Science	5	5
64.	Library Networks	5	5
66.	Resources and Services of the Federal Library Complex	5	5
89.	Technical Report Literature	5	5
90.	U.S. Public Documents	5	5
5.	Administrative Policies and Practices	4	13
7.	Design of Library Organizations	4	13
8.	General Management	4	13
15.	Program Planning and Budgeting	4	13
19.	Administration of the Special Federal Library	4	13
27.	Information Processing on Computers	4	13
34.	Centralized Cataloging at the National Level	4	13
37.	Recataloging and Reclassification: Problems and Procedures	4	13
38.	Subject Representation	4	13
43.	Information Retrieval for Clientele	4	13
44.	Literature Searching	4	13

Course Number	Course Title	Number Checking either Course Now or Course Later	Rank
46.	Equipment Evaluation, Selection, and Procurement	4	13
74.	Search Logic and Tactics	4	13
76.	Operations Research in Library Management	4	13
93.	Systems Analysis and Design for Library and Information Center Operations	4	13
94.	Systems Analysis in Information Science	4	13
ALL TOGETHER			
26.	Automation of Library Processes	119	1
28.	Information Retrieval Systems	116	2
27.	Information Processing on Computers	101	3
19.	Administration of the Special Federal Library	65	4
5.	Administrative Policies and Practices	62	5
9.	Human Relations in Library Administration	58	6
43.	Information Retrieval for Clientele	55	7
8.	General Management	52	8
15.	Program Planning and Budgeting	52	8
73.	Organization and Administration of Reference Systems	51	10
7.	Design of Library Organizations	50	11
93.	Systems Analysis and Design for Library and Information Center Operations	49	12
12.	Personnel Administration in Libraries	48	13
13.	Personnel Problems under the Impact of Technological Change: Library Applications	45	14
74.	Search Logic and Tactics	45	14
90.	U.S. Public Documents	44	16
3.	Current Practices in Acquisition and Selection of Non-Book Materials	43	17
6.	Communication Theory and Processes	43	17
57.	The Scope of Information Science	43	17
68.	Publication in the Library and Information Science Fields	43	17

APPENDIX TABLE XXIII[1]

TYPES OF CONDITIONS LISTED BY RESPONDENTS AS NECESSARY FOR THEM TO ENROLL IN ONE-YEAR POST-MLS OR DOCTORAL PROGRAM IN LIBRARY SCIENCE:1968

Conditions Necessary for Participating in Post-MLS or Doctoral Program in Library Science	Those Interested in Post-MLS Program					Those Interested in Doctoral Program				
	Grade Level			Total		Grade Level			Total	
	9	10, 11	12-14			9	10, 11	12-14		
	No.	No.	No.	No.	%[2]	No.	No.	No.	No.	%[3]
No Conditions Listed	5	3	3	11	9.01	0	2	1	3	5.08
Partial Financial Support										
"Financial Assistance" (adequate)	11	9	5	25		5	9	3	20	
All tuition and fees	2	1	3	6		0	1	2	3	
Would need scholarship or fellowship	4	2	3	9		3	2	2	7	
"Government financing"	1	1	2	4		0	0	1	1	
Money to support family	0	0	1	1		0	0	0	0	
Sub-Group Total*	18	13	14	45	36.89	8	12	10	30	50.85
Curriculum Content										
Courses relevant to present position	2	1	1	4		0	1	0	1	
Quality program	1	6	0	7		1	5	0	6	
New content, not repeat of what have had before	0	2	0	2		0	0	0	0	
Free hand in selection from wide variety of courses	0	2	1	3		0	5	0	5	
Balance between library science and subject specialization	0	1	0	1		0	0	0	0	
Only if curriculum has specific areas of specialization	2	2	0	4		0	0	0	0	
Program lead to better job	2	1	1	4		1	0	1	2	
If credits will apply to Ph.D.	0	3	0	3		0	0	0	0	
No comps or thesis	1	0	0	1		0	0	0	0	
Eligibility for admission	0	1	0	1		0	1	0	1	
Sub-Group Total*	6	13	2	21	17.21	2	11	1	14	23.73
Leave: (Assurance of having job on return)										
"Leave of absence"	5	9	5	19		1	2	3	6	
"Leave without pay"	1	0	1	2		1	0	1	2	
"Administrative leave"	2	0	0	2		0	0	0	0	
"Leave for a year to participate in full-time course"	2	0	0	2		0	0	0	0	
"Sufficient freedom from job to do first rate work on Ph.D. program"	0	0	0	0		0	1	0	1	
Sub-Group Total*	10	9	6	25	20.57	2	3	4	9	15.25
Flexible Scheduling of Program										
During working hours	0	1	1	2		0	0	0	0	
Courses must be at night	1	4	2	7		0	2	0	2	
Must be on part-time basis	2	2	3	7		0	3	1	4	
Saturday classes	0	1	2	3		0	0	0	0	
Split-time arrangement to avoid taking year's leave	1	0	0	1		0	0	0	0	
Sub-Group Total*	4	8	7	19	15.57	0	4	1	5	8.47
Total Financial Support										
Leave with pay	0	3	4	7		0	2	4	6	
Salary maintained throughout study	1	3	1	5		0	1	1	2	
"Complete financial aid and support"	3	0	1	4		0	1	1	2	
Sub-Group Total*	4	6	6	16	13.12	0	3	5	8	13.56
Location: Close to Home	2	6	1	9	7.38	0	1	3	4	6.78
Home Situation Satisfactory	1	2	0	3	2.46	0	0	0	0	0.00
Supporting Staff to Carry on when Absent to Study	0	0	2	2	1.64	0	0	2	2	3.39

[1]This table indicates the conditions listed by each respondent. The total number of conditions is greater than the number of respondents, as many respondents listed two or more conditions.

[2]Percentages in this column were calculated with a base number of 122 representing the number of respondents expressing an interest in a post-MLS program.

[3]Percentages in this column were calculated with a base number of 59 representing the number of respondents expressing an interest in a doctoral program.

*This row represents the number of people who listed at least one condition or more, and so does not always add up for the Sub-Group.

APPENDIX TABLE XXIV

RESPONDENTS' EVALUATION OF KNOWLEDGE, ABILITIES AND SKILLS MOST IMPORTANT FOR THEIR REPLACEMENT TO HAVE BY GRADE LEVEL: 1968

Skills and Knowledge	Response by Grade						Total		Total
	9		10, 11		12-14		Total		
	A[1]	B[2]	A	B	A	B	A	B	
General Library Skills, Knowledge and Experience	4	3	10	10	10	6	24	19	43
Total Respondents	4	3	10	10	9	6	23	19	38
Total A + B	7		20		16		43		43
Total Respondents A + B	7		18		13		38		38
Most Important Knowledge: Academic (Question 78A only)									
Unspecified Subject Field	13		30		16		59		59
Specified Subject Field									
Education	2		0		2		4		4
Humanities	40		36		38		114		114
Library Science	15		16		16		47		47
Military	1		2		4		7		7
Sciences	32		48		17		97		97
Social Sciences	3		23		10		36		36
All other Specified Subject Field Responses	5		3		0		8		8
Total Specified	98		128		87		313		313
Total Specified and Unspecified	111		158		103		372		372
Total Respondents	58		90		57		205		205
Administrative Knowledge and Skills									
Unspecified	7	9	13	5	14	12	34	26	60
Specified									
Bureaucracy, Dealing with	15	5	12	3	13	4	40	12	52
Business Procedures, Principles	2	3	6	4	4	3	12	10	22
Goal, Mission, Program of Agency	1	0	6	2	6	1	13	3	16
Management, Organization, Planning	3	5	5	10	5	9	13	24	37
Personnel, Supervision, Relations	1	12	8	27	10	27	19	66	85
Public Relations	4	7	13	4	7	12	24	23	47
Total Specified	26	32	50	50	45	56	121	138	259
Total Specified and Unspecified	33	41	63	55	59	68	155	164	319
Total Respondents	27	31	38	37	40	49	105	117	175
Total A + B	74		118		127		319		319
Total Respondents A + B	46		61		68		175		175
Specialized Library Knowledge and Skills									
Acquisitions	11	4	9	4	6	5	26	13	39
Automation	6	3	13	6	11	0	30	9	39
Bibliography	5	4	4	2	4	3	13	9	22
Cataloging and Classification	30	17	30	15	32	10	92	42	134
Circulation	1	1	0	0	0	0	1	1	2
Clientele Services	0	8	1	12	1	6	2	26	28
Indexing	2	1	4	5	1	1	7	7	14
Literature Search	0	3	0	0	0	0	0	3	3
Reference	23	9	27	13	11	4	61	26	87
Research	1	2	5	1	5	1	11	4	15
Systems Analysis	2	0	0	2	5	3	7	5	12
All other Specialized Library Knowledge and Skills Responses	3	2	0	1	5	0	8	3	11
Total	84	54	93	61	81	33	258	148	406
Total Respondents	51	32	59	45	43	21	152	98	219
Total A + B	138		154		114		406		406
Total Respondents A + B	72		91		56		219		219
Personal Characteristics (Question 78B only)									
Abilities, Skills, Not Specifically Library in Nature		46		54		39		139	139
Personality Traits		35		56		35		126	126
Intelligence, Working Habits		29		43		24		96	96
People, Getting along with		37		51		26		114	114
Total		147		204		124		475	475
Total Respondents		73		96		60		229	229
TOTAL Comments: Skills and Knowledge	232	245	324	330	253	231	809	806	1615
TOTAL RESPONDENTS	91	88	121	118	94	92	306	298	313
TOTAL: A + B	477		654		484		1615		1615
TOTAL RESPONDENTS: A + B	94		124		95		313		313
No Response A + B	21		16		15		52		52
No Response + Total Respondents	115		140		110		365		365

[1]Column A refers to Most Important Knowledge. [2]Column B refers to Most Important Abilities and/or Skills.

APPENDIX TABLE XXV
FREQUENCY OF COMMENTS ON PERSONALITY TRAITS DESIRABLE FOR REPLACEMENTS TO HAVE ACCORDING TO GRADE LEVEL OF RESPONDENTS:1968

Personality Traits	Response by Grade			Total
	9	10, 11	12-14	
Adaptability, Flexibility	12	13	13	38
Dedication, Loyalty	6	10	2	18
Fortitude	4	6	0	10
Patience	10	6	6	22
All other Personality Responses	3	21	14	38
Total	35	56	35	126
Total Respondents	26	39	28	93

APPENDIX TABLE XXVI

FREQUENCY OF COMMENTS ON COURSES AND CURRICULA SECTION OF THE QUESTIONNAIRE BY TYPE OF POSITION AND GRADE LEVEL: 1968

Category of Respondents	Library Science Courses	Non-Library Science Courses	Workshops and Seminars	Work-Study Programs	Doctoral Programs	General Comments	Time, Location, Format of Courses	Attitudes toward Post-MLS Study	Under-graduate Requirements	Study for LS Technician	Total Number of Comments
ADMINISTRATORS											
Library Heads											
GS 9	10	1	2	1	0	3	4	1	0	0	22
GS 10, 11	5	1	2	1	0	4	2	1	1	0	17
GS 12-14	3	1	4	1	2	4	1	2	0	0	18
Subtotal	18	3	8	3	2	11	7	4	1	0	57
Other Administrators											
GS 9	8	3	5	0	0	6	3	2	1	0	28
GS 10, 11	5	5	1	0	0	4	2	2	0	2	21
GS 12-14	8	2	1	0	1	4	3	3	2	1	25
Subtotal	21	10	7	0	1	14	8	7	3	3	74
Total	39	13	15	3	3	25	15	11	4	3	131
NON-ADMINISTRATORS											
GS 9	6	4	0	0	0	6	1	3	0	1	21
GS 10, 11	2	9	2	0	1	2	2	2	2	0	22
GS 12-14	1	2	0	0	0	0	2	1	1	0	7
Subtotal	9	15	2	0	1	8	5	6	3	1	50
ALL RESPONDENTS											
GS 9	24	8	7	1	0	15	8	6	1	1	71
GS 10, 11	12	15	5	1	1	10	6	5	3	2	60
GS 12-14	12	5	5	1	3	8	6	6	3	1	50
TOTAL	48	28	17	3	4	33	20	17	7	4	181

APPENDIX TABLE XXVII

PERCENTAGE DISTRIBUTION OF COURSES CHECKED IN CATEGORIES "SHOULD HAVE", "COULD USE", AND "DON'T REALLY NEED" TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) AS PERCEIVED BY INTERVIEWEES: 1969 (N=20)

Course Number	Course Title	Should Have	Could Use	Don't Really Need	
				Can Be Taught on Job	Don't Need for Job under Consideration
		%	%	%	%
9.	Human Relations in Library Administration	75	25	0	0
5.	Administrative Policies and Practices	70	20	5	5
14.	Policy Formation and Decision Making in Library Organizations	70	15	15	0
26.	Automation of Library Processes	65	25	10	0
8.	General Management	60	35	0	5
6.	Communication Theory and Processes	55	40	5	0
10.	Innovation and Planned Change in Library Organizations	50	45	5	0
13.	Personnel Problems under the Impact of Technological Change	50	30	15	5
15.	Program Planning and Budgeting	50	30	15	5
1.	Building and Evaluating Library Collections	45	40	5	10
74.	Search Logic and Tactics	45	30	25	0
12.	Personnel Administration in Libraries	45	25	10	20
7.	Design of Library Organizations	40	45	15	0
43.	Information Retrieval for Clientele	40	35	15	10
3.	Current Practices in Acquisition and Selection of Non-Book Materials	35	50	10	5
17.	Theories of Organization and Management	35	45	20	0
93.	Systems Analysis and Design for Library and Information Center Operations	35	45	15	5
44.	Literature Searching	35	40	20	5
48.	Planning and Justifying Library Quarters	35	40	20	5
69.	Publishing in the Twentieth Century: Book and Non-Book Materials	35	25	20	20
27.	Information Processing on Computers	30	60	10	0
28.	Information Retrieval Systems	30	50	20	0
38.	Subject Representation	30	50	15	5
51.	Content Analysis	30	50	20	0
64.	Library Networks	30	50	15	5
76.	Operations Research in Library Management	30	45	25	0
68.	Publication in the Library and Information Science Fields	30	40	20	10
30.	Analytical Bibliography	30	30	35	5
72.	Non-Conventional Library Reference Tools	30	30	20	20
92.	Library Management Information Systems	30	30	35	5
33.	Cataloging and Classification of Non-Book Materials	25	55	15	5
59.	Current Issues in Librarianship and Information Science	25	55	10	10
66.	Resources and Services of the Federal Library Complex	25	55	10	10
16.	Public Administration	25	50	25	5
46.	Equipment Evaluation, Selection and Procurement	25	50	20	5
50.	Abstracting and Indexing Services	25	45	15	15
52.	Theories of Indexing and Information Retrieval	25	45	25	5
77.	Research Development in Libraries	25	45	25	5
89.	Technical Report Literature	25	45	20	10
19.	Administration of the Special Federal Library	25	40	20	15
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	25	40	25	10
63.	The Library Administrator and Government Policy, Organization, and Operation	25	40	15	20
71.	Development and Maintenance of a Reference Referral Center	25	40	25	10
83.	Business and Economics Literature and Research	25	20	40	15
73.	Organization and Administration of Reference Systems	20	55	10	15
2.	Centralized Processing	20	45	25	10
78.	Statistical Theory and the Interpretation of Statistical Data for Researching in Libraries and Information Centers	20	45	35	0

Course Number	Course Title	Should Have	Could Use	Don't Really Need	
				Can Be Taught on Job	Don't Need for Job under Consideration
		%	%	%	%
90.	U.S. Public Documents	20	45	10	25
31.	Enumerative Bibliographical Systems	20	35	40	5
57.	The Scope of Information Science	20	35	40	5
65.	Mass Media in Communication	20	35	40	5
94.	Systems Analysis in Information Science	20	35	40	5
84.	Documents of International Organizations and Foreign Governments	20	15	50	15
34.	Centralized Cataloging at the National Level	15	55	25	5
41.	Reprography	15	45	20	20
87.	Scientific and Technical Literature and Research	15	40	25	20
47.	Library Design and Architecture	15	35	40	10
81.	Behavioral Science Literature and Research	15	30	35	20
82.	Biomedical Literature and Research	15	15	60	10
40.	Circulation Systems	10	65	20	5
11.	Management of Records Systems in the Library	10	50	25	15
37.	Recataloging and Reclassification	10	45	25	20
61.	International Library Services and Resources	10	35	40	15
62.	Labor Relations and Library Employment	10	35	45	10
60.	Cybernetics and Society	10	30	55	5
86.	Legal Literature and Research	10	10	70	10
55.	Linguistics and Information Science	5	50	45	0
35.	Centralized Cataloging at the International Level	5	40	45	10
56.	Mathematical Techniques for Information Science	5	35	60	0
21.	Hospital Library Administration and Service	5	25	65	5
24.	Rare Book Librarianship	5	25	65	5
23.	Law Library Administration and Service	5	10	80	5
54.	Equipment and Instrumentation	0	60	35	5
22.	Information Center Administration	0	40	55	5
20.	Archival Administration	0	35	55	10
85.	Fine Arts Literature and Research	0	25	65	10
80.	Agricultural Literature and Research	0	15	75	10

APPENDIX TABLE XXVIII

COURSES RANKED TO INDICATE EDUCATIONAL NEEDS OF FEDERAL LIBRARIANS (GRADES 9-14) ACCORDING TO WEIGHTED SCORE AS PERCEIVED BY INTERVIEWEES COMPARED TO FREQUENCY DISTRIBUTION OF NUMBER OF COURSES CHECKED IN CATEGORY "COURSE NOW AND/OR COURSE LATER" BY RESPONDENTS BY TYPE OF POSITION: 1969

Course Number	Course Title	Ranking by Interviewees (N=20)		Course Now and/or Course Later Ranked by Respondents: Administrative (N=230)		Non-Administrative (N=135)		Total (N=365)	
		Score[1]	Rank	Score	Rank	Score	Rank	Score	Rank
9.	Human Relations in Library Administration	35	1	41	5	17	10	58	6
5.	Administrative Policies and Practices	32	2	38	6	24	5	62	5
8.	General Management	31	3	36	9	16	13	52	8
14.	Policy Formation and Decision-Making in Library Organizations	31	3	18	48	8	53	26	53
26.	Automation of Library Processes	31	3	74	2	45	1	119	1
6.	Communication Theory and Processes	30	6	29	17	14	19	43	17
10.	Innovation and Planned Change in Library Organizations	29	7	21	40	7	60	28	48
13.	Personnel Problems Under the Impact of Technological Change	26	8	30	14	15	15	45	14
1.	Building and Evaluating Library Collections	26	8	22	34	9	45	31	38
15.	Program Planning and Budgeting	26	8	38	6	14	19	52	8
7.	Design of Library Organizations	25	11	37	8	13	23	50	11
3.	Current Practices in Acquisition and Selection of Non-Book Materials	24	12	31	13	12	29	43	17
74.	Search Logic and Tactics	24	12	28	20	17	10	45	14
27.	Information Processing on Computers	24	12	65	3	36	3	101	3
12.	Personnel Administration in Libraries	23	15	34	11	14	19	48	13
17.	Theories of Organization and Management	23	15	22	34	6	66	28	48
43.	Information Retrieval for Clientele	23	15	29	17	26	4	55	7
93.	Systems Analysis and Design for Library and Information Centers	23	15	35	10	14	19	49	12
28.	Information Retrieval Systems	22	19	75	1	41	2	116	2
44.	Literature Searching	22	19	25	25	15	15	40	25
51.	Content Analysis	22	19	16	54	11	34	27	50
64.	Library Networks	22	19	18	48	9	45	27	50
38.	Subject Representation	22	19	29	17	13	23	42	21
59.	Current Issues in Librarianship and Information Science	21	24	9	72	10	41	19	65
33.	Cataloging and Classification of Non-Book Materials	21	24	22	34	7	60	29	42
66.	Resources and Services of the Federal Library Complex	21	24	25	25	10	41	35	30
76.	Operations Research in Library Management	21	24	20	45	9	45	29	42
46.	Equipment Evaluation, Selection and Procurement	20	28	18	48	5	69	23	58
16.	Public Administration	20	28	14	60	6	66	20	62
48.	Planning and Justifying Library Quarters	20	28	13	64	3	74	16	68
68.	Publication in the Library and Information Science Field	20	28	27	21	16	13	43	17
50.	Abstracting and Indexing Services	19	32	27	21	12	29	39	26
52.	Theories of Indexing and Information Retrieval	19	32	16	54	13	23	29	42
73.	Organization and Administration of Reference Systems	19	32	33	12	18	8	51	10
77.	Research Development in Libraries	19	32	21	40	11	34	32	36
89.	Technical Report Literature	19	32	21	40	10	41	31	38
69.	Publishing in the Twentieth Century: Book and Non-Book Materials	19	32	23	31	13	23	36	28
19.	Administration of the Special Federal Library	18	38	48	4	17	10	65	4
30.	Analytical Bibliography	18	38	24	27	11	34	35	30
36.	New Advances in Classification Schemes and Cataloging Systems: A Survey	18	38	30	14	11	34	41	22

Course Number	Course Title	Ranking by Interviewees (N=20)		Course Now and/or Course Later Ranked by Respondents					
				Administrative (N=230)		Non-Administrative (N=135)		Total (N=365)	
		Score[1]	Rank	Score	Rank	Score	Rank	Score	Rank
63.	The Library Administrator and Government Policy, Organization and Operation	18	38	14	60	7	60	21	59
71.	Development and Maintenance of a Reference Referral Center	18	38	22	34	12	29	34	34
72.	Non-Conventional Library Reference Tools	18	38	20	45	19	7	39	26
92.	Library Management of Information Systems	18	38	22	34	13	23	35	30
30.	U.S. Public Documents	17	45	26	23	18	8	44	16
2.	Centralized Processing	17	45	24	27	11	34	35	30
34.	Centralized Cataloging at the National Level	17	45	22	34	10	41	32	36
40.	Circulation Systems	17	45	21	40	8	53	29	42
78.	Statistical Theory and the Interpretation of Statistical Data for Researching	17	45	18	48	9	45	27	50
83.	Business and Economics Literature and Research	16	50	11	68	5	69	16	68
57.	The Scope of Information Science	15	51	23	31	20	6	43	17
65.	Mass Media in Communications	15	51	13	64	11	34	24	57
94.	Systems Analysis in Information Science	15	51	26	24	15	15	41	22
41.	Reprography	15	51	15	57	1	77	16	68
31.	Enumerative Bibliographical Systems	15	51	13	64	7	60	20	62
88.	Social Science Literature and Research	14	56	11	68	8	53	19	65
91.	Management of Records Systems in the Library	14	56	23	31	8	53	31	38
87.	Scientific and Technical Literature and Research	14	56	24	27	12	29	36	28
37.	Recataloging and Reclassification: Problems and Procedures	13	59	14	60	6	66	20	62
47.	Library Design and Architecture	13	59	24	27	9	45	33	35
54.	Equipment and Instrumentation	12	61	17	52	9	45	26	53
55.	Linguisitics and Information Science	12	61	17	52	12	29	29	42
81.	Behavioral Science Literature and Research	12	61	14	60	7	60	21	59
61.	International Library Services and Resources	11	64	13	64	8	53	21	59
62.	Labor Relations and Library Employment	11	64	8	73	3	74	11	77
84.	Documents of International Organizations and Foreign Governments	11	64	15	57	15	15	30	41
35.	Centralized Cataloging at the Interational Level	10	67	11	68	7	60	18	67
60.	Cybernetics and Society	10	67	20	45	4	69	25	56
56.	Mathematics Techniques for Information Science	9	69	16	54	13	23	29	42
82.	Biomedical Literature and Research	9	69	21	40	5	69	26	53
22.	Information Center Administration	8	71	30	14	11	34	41	22
20.	Archival Administration	7	72	6	74	8	53	14	75
21.	Hospital Library Administration and Service	7	72	15	57	1	77	16	68
24.	Rare Book Librarianship	7	72	11	68	5	69	16	68
86.	Legal Literature and Research	6	75	7	74	9	45	16	68
85.	Fine Arts Literature and Research	5	76	6	76	9	45	15	74
23.	Law Library Administration and Service	4	77	5	77	8	53	13	76
80.	Agricultural Literature and Research	3	78	4	78	3	74	7	78

[1] Scores are not comparable because Column 3 (Interviewees) is a weighted score while Columns 5, 7 and 9 (Respondents) represent a frequency count.

APPENDIX TABLE XXIX

ADMINISTRATIVE SKILLS AND COMPETENCIES IN WHICH LIBRARIANS MOST URGENTLY NEED ADDED TRAINING AT THE POST-MLS LEVEL ACCORDING TO THE FREE RESPONSE ANSWERS OF INTERVIEWEES:1969 (N=20)

Frequency of Free Response Comments	Skills or Competencies	Related Major Job Function Category in Questionnaire	Related Courses in Questionnaire	
			Course Number	Course Title
18	Capacity for directing others -- including supervision, interpersonal skills and employee motivation	Directing	9. 12.	Human Relations in Library Administration Personnel Administration
16	Communication Skills	Directing	6.	Communication Theory and Processes
15	Understanding the management process	Planning, organizing, staffing, controlling, etc.	8.	General Management
13	Skill in decision-making	Planning, directing	14.	Policy Formation and Decision Making in Library Organizations
12	Skill in program planning and budgeting	Planning	15.	Program Planning and Budgeting
11	Developing and merchandising user services	Representing	6.	Communication Theory and Processes
10	Innovation: taking the lead in bringing about changes	Planning, controlling	10.	Innovation and Planned Change in Library Organizations
10	Understanding systems design and analysis	Planning, controlling	7.	Design of Library Organizations

APPENDIX TABLE XXX
MEAN IMPORTANCE (10-$\bar{X}$ RANK) OF TRAITS FOR JOB SUCCESS BY MANAGEMENT LEVEL*

Trait	Management Level				
	President (N=112)	Vice President (N=604)	Upper Middle (N=650)	Lower Middle (N=428)	Lower (N=102)
Inner-Directed					
Forceful	4.66	4.19	4.02	3.82	3.37
Imaginative	7.37	6.94	6.73	6.41	6.44
Independent	2.96	2.70	2.54	2.36	2.44
Self-Confident	5.86	5.45	5.36	5.87	5.53
Decisive	6.71	6.08	5.96	5.61	5.35
Total for Cluster	27.56	25.34	24.61	24.07	23.13
Other-Directed					
Cooperative	4.54	5.49	5.61	5.88	5.75
Adaptable	4.54	4.77	5.13	5.16	5.13
Cautious	1.30	1.38	1.30	1.24	1.47
Agreeable	2.18	2.61	2.84	2.91	3.89
Tactful	4.89	5.42	5.52	5.74	5.63
Total for Cluster	17.45	19.67	20.40	20.93	21.87

Note. - Higher numbers indicate greater importance.

*The source for this table is: Porter, Lyman W. and Mildred M. Henry. "Job Attitudes in Management: VI. Perceptions of the Importance of Certain Personality Traits as a Function of Line Versus Staff Type of Job." Journal of Applied Psychology, 48:305-309, October, 1964.